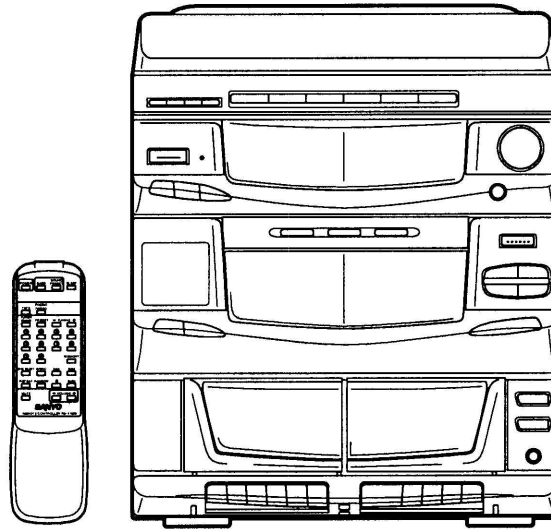


Service Manual

Digital Stereo Sound System

DC-X1050 (UK)



PRODUCT CODE No.
129 511 00

CONTENTS

SPECIFICATIONS	1	CD CHANGER REPLACEMENT	16
LASER BEAM SAFETY PRECAUTIONS	1	CD MECHANISM ADJUSTMENTS	21
BEFORE USE OR TRANSPORTATION	2	CD PLAYER ADJUSTMENTS	23
WHAT TO DO IF	3	EXPLODED VIEW	25
REMOVAL AND INSTALLATION	3	PARTS LIST	27
TAPE DECK ADJUSTMENTS	7	SCHEMATIC DIAGRAM	42
AMPLIFIER ADJUSTMENTS	9	WIRING DIAGRAM	44
TUNER ADJUSTMENTS	10	IC BLOCK DIAGRAM & DESCRIPTION	45
REPLACEMENT OF STYLUS	11	FL DISPLAY	69
CD CHANGER OPERATION DESCRIPTION	12	IC & TRANSISTOR VOLTAGES	70

Notice

SANYO

<input type="checkbox"/> CORRECTION	<input checked="" type="checkbox"/> PRODUCTION CHANGE
<input type="checkbox"/> SERVICE FLASH	<input type="checkbox"/> ADD INFORMATION
<input type="checkbox"/>	<input type="checkbox"/>

FILE NO.

Please add this notice to the Service Manual listed below.

Category : <u>Digital Stereo Sound System</u>		Date : <u>Feb. 1998</u>
Model : <u>DC-X1050</u>		
Destination : <u>UK</u>	Reference No. : <u>SM580719</u>	Issue Number : <u>1</u>

When replacing the gears, please refer to Table 1 and Illustrations as shown below.

(A) Replacing Gear(552)

Check the mark of Gear(554). Arrange it with the other gear as Table 1.

If necessary, change Gear(554) too.

(B) Replacing Gear(554)

Check the mark of Gear(552). Arrange it with the other gear as Table 1.

If necessary, change Gear(552) too.

Table 1. Combine of gear(552) and gear(554)

Gear(552)		Gear(554)		
Mark	Part No	Mark	Part No	Usable or unusable
No	614 266 1819	No	614 266 1802	Usable
No	614 266 1819	Yes	614 298 7025	Unusable
Yes	614 298 7032	No	614 266 1802	Unusable
Yes	614 298 7032	Yes	614 298 7025	Usable

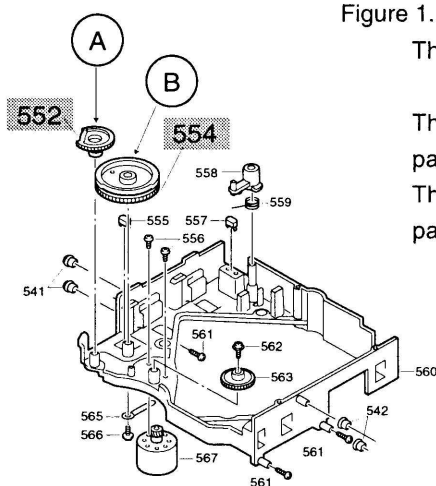


Figure 1. A position of mark "C" of gear (Identification method of gears)

The figure which looked at gears (552)
from (A) direction

There is mark "C" in (a) department ;

part number is 614 298 7032

There is not mark "C" to (a) department ;
part number is 614 266 1819

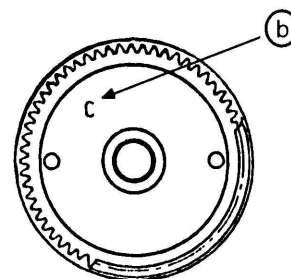


The figure which looked at gears (554)
from (B) direction

There is mark "C" in (b) department ;

part number is 614 298 7025

There is not mark "C" to (b) department ;
part number is 614 266 1802



Prod Cord : 129 511 00

SANYO Technosound Co., Ltd
Osaka Japan

SPECIFICATIONS

TURNTABLE SECTION

Type Belt drive auto-return
 Rated speed 33 1/3, 45rpm

TUNER SECTION

Reception frequency ... FM : 87.5 - 108 MHz
 MW : 522 - 1,611 kHz
 LW : 144- 285 kHz

CD PLAYER SECTION

Type Changer, 3-disc
 Channels 2-channel stereo
 Sampling frequency .. 44.1 kHz
 Pick-up Optical 3-beam semiconductor laser
 Laser output 0.6 mW (Continuous wave max.)
 Wave length 790 nm
 Frequency response .. 20 Hz - 20,000 Hz
 Wow & Flutter Below measurable limits

CASSETTE DECK SECTION

Track system 4-track, 2-channels stereo
 Frequency response 60 Hz - 14,500 Hz (CrO2 tape)
 60 Hz - 13,500 Hz (Normal tape)
 Signal-to-noise ratio 60 dB (Dolby NR ON)
 Wow & Flutter 0.15 % (WRMS)
 Fast forward /
 rewind time Approx. 110 sec. (C-60)

GENERAL

Output power 22.5 W x 2 (at 4 ohms,
 10 % distortion)
 Sound preset Four electronic presets
 Inputs VIDEO : 400 mV / 50k ohms
 Outputs SPEAKERS : 4 ohms
 PHONES : 8 - 32 ohms
 Power requirements AC : 230 V, 50 Hz
 Power consumption 80 W
 Dimensions 350 (W) x 423 (H) x 375 (D) mm
 Weight 9.6 kg

Specifications subject to change without notice.

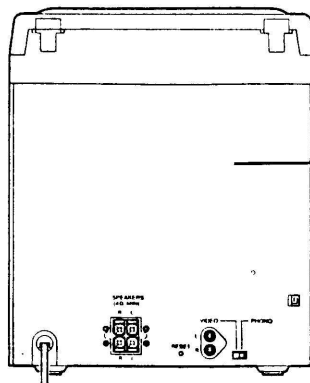
LASER BEAM SAFETY PRECAUTIONS

- Pick-up that emits a laser beam is used in this CD player.

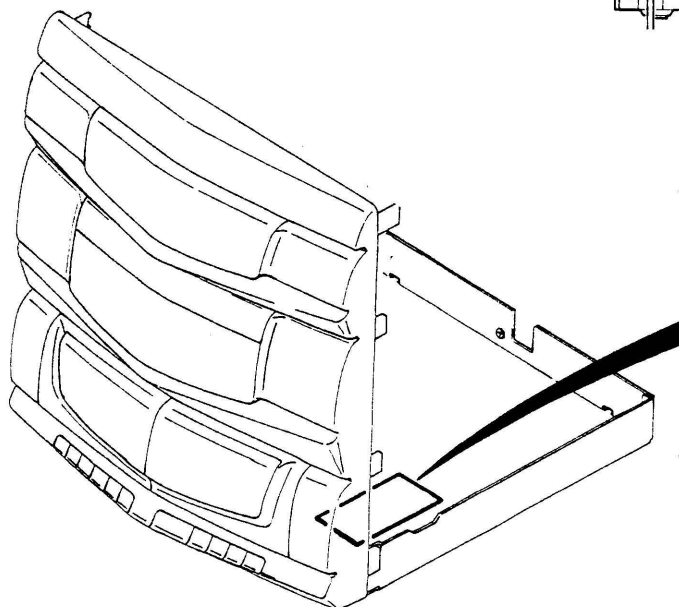
CAUTION :

USE OF CONTROLS OR ADJUSTMENTS
 OR PERFORMANCE OF PROCEDURES
 OTHER THAN THOSE SPECIFIED
 HEREIN MAY RESULT IN HAZARDOUS
 RADIATION EXPOSURE

LASER OUTPUT 0.6 mW Max. (CW)
 WAVELENGTH 790 nm



CLASS 1 LASER PRODUCT
 LUOKAN 1 LASERLAITE
 KLASS 1 LASERAPPARAT



CAUTION—INVISIBLE LASER RADIATION
 WHEN OPEN AND INTERLOCKS DEFEATED.
 AVOID EXPOSURE TO BEAM.

ADVARSEL—USYNLIG LASER STRÅLING VED ÅBNING.
 NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION,
 UNDGA UDSÆTTELSE FOR STRÅLING.

VARNING—ÖSYNLIG LASER STRÅLNING NÅR
 DENNA DEL ÄR ÖPPNAD OCH SPARR ÄR URKOPPLAD.
 STRÅLEN ÄR FARLIG.

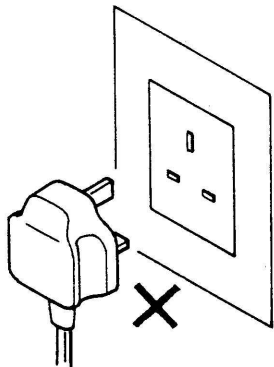
VORSICHT—UNSICHTBARE LASERSTRALUNG TRITT AUS.
 WENN DECKEL GEÖFFNET UND WENN SICHERHEITSVERRIEGELUNG
 ÜBERBRÜCKT IST, NICHT DEM STRAHL AUSSETZEN.

VARO! Avattaessa ja suojalukitus ohitettaessa olet alttiina
 näkymättömälle lasersäteilylle. Älä katso säteeseen.



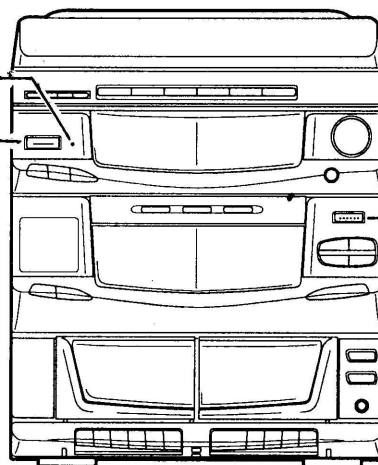
BEFORE USE OR TRANSPORTATION

- (1) When carrying the unit, be sure to remove any discs which may be inside.
- (2) Press the POWER "OFF". (①)



STANDBY INDICATOR ②

POWER ①



OPEN/CLOSE

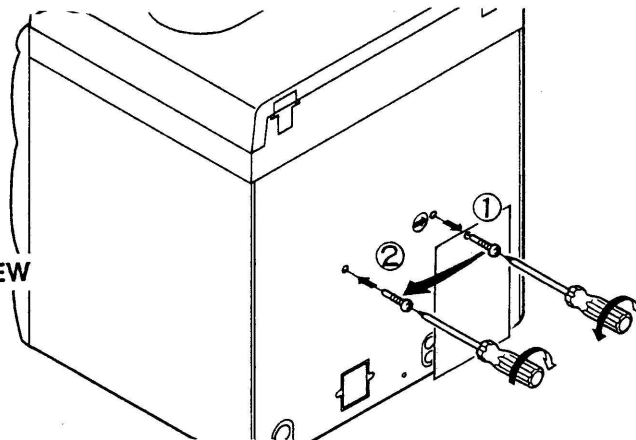
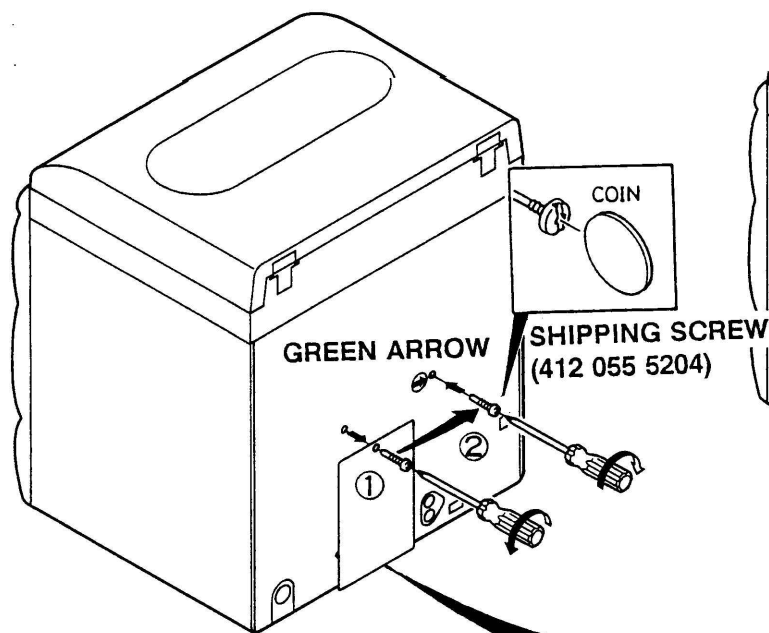
- (3) CD mechanism : Moving start
- (4) CD mechanism : Home position
- (5) The STANDBY indicator "lights". (②)
- (6) Then unplug the power cord from the AC outlet.

• Before use

- (1) Remove the shipping screw from the rear of the unit. (①)
- (2) This screw is used to secure the CD mechanism during shipment and should be retained for the future use. (②)

• Before transportation

- (1) Turn on the power and remove all discs from the unit. (①)
- (2) Turn the **POWER OFF**. (②)
The **STANDBY** indicator lights.
- (3) Then unplug the power cord from the **AC outlet**.
- (4) Reinstall the shipping screw.



CAUTION LABEL
(614 286 4159)

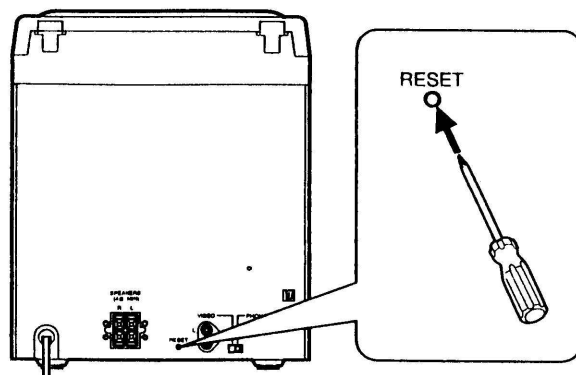
• IMPORTANT!

Before use remove this shipping screw.
The removed screw should be retained by
reinstalling the screw to the point indicated green arrow.

WHAT TO DO IF

If the operation of the unit or display is not normal, or you wish to clear the contents of the memory.

1. Disconnect the power cord's plug from the electrical outlet.
2. Press the **RESET** button for at least **20** seconds.
3. Connect the power cord.
4. Press the **POWER** button to turn the power on.

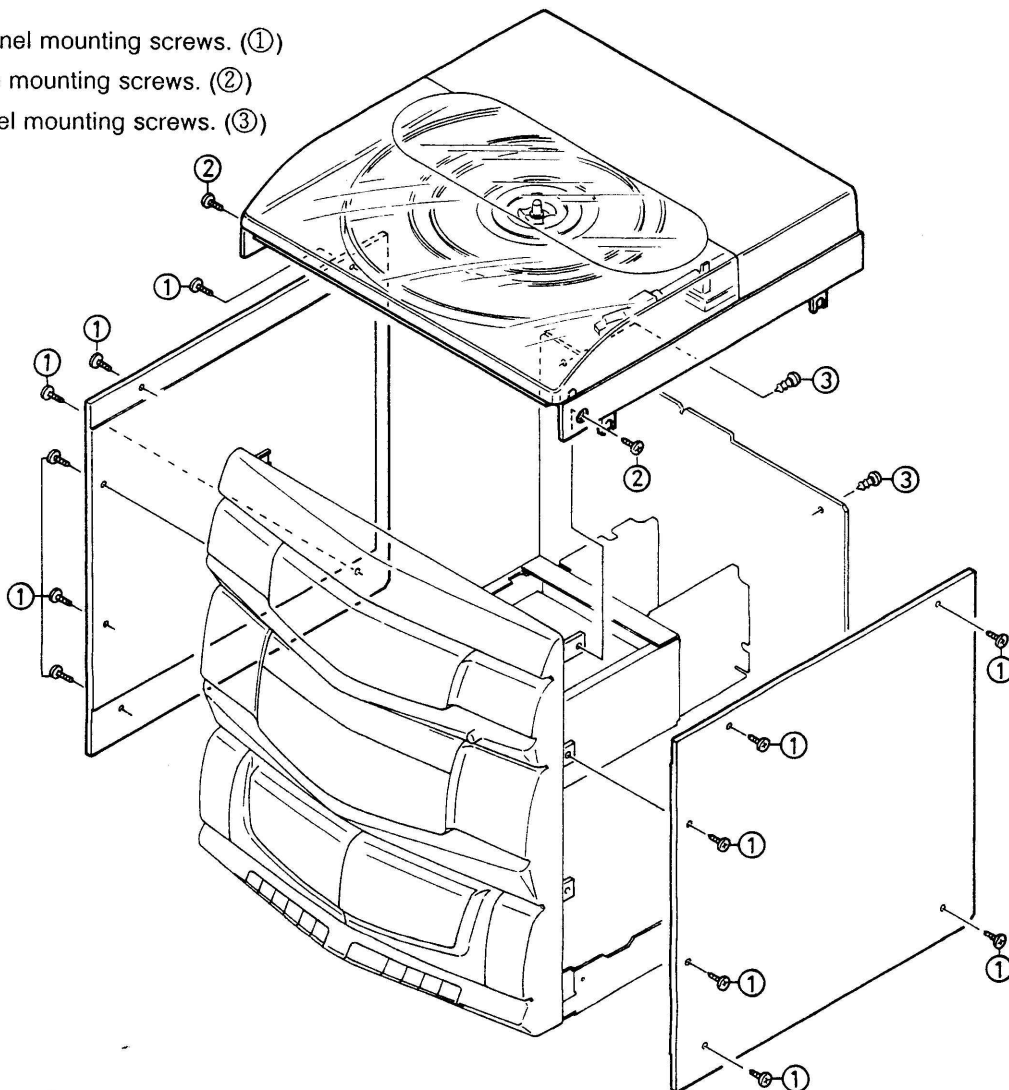


REMOVAL AND INSTALLATION

- Press the "POWER" button and check that the STANDBY LED lights.
- Disconnect the power cord's plug from the electrical outlet.
- All wiring should be returned to the original position after work is completed:
- First have ready many the new FIXERS (614 129 2496) for replacement.
- Arrange the lead wires so that they are not near the heat sink.

a. CABINET

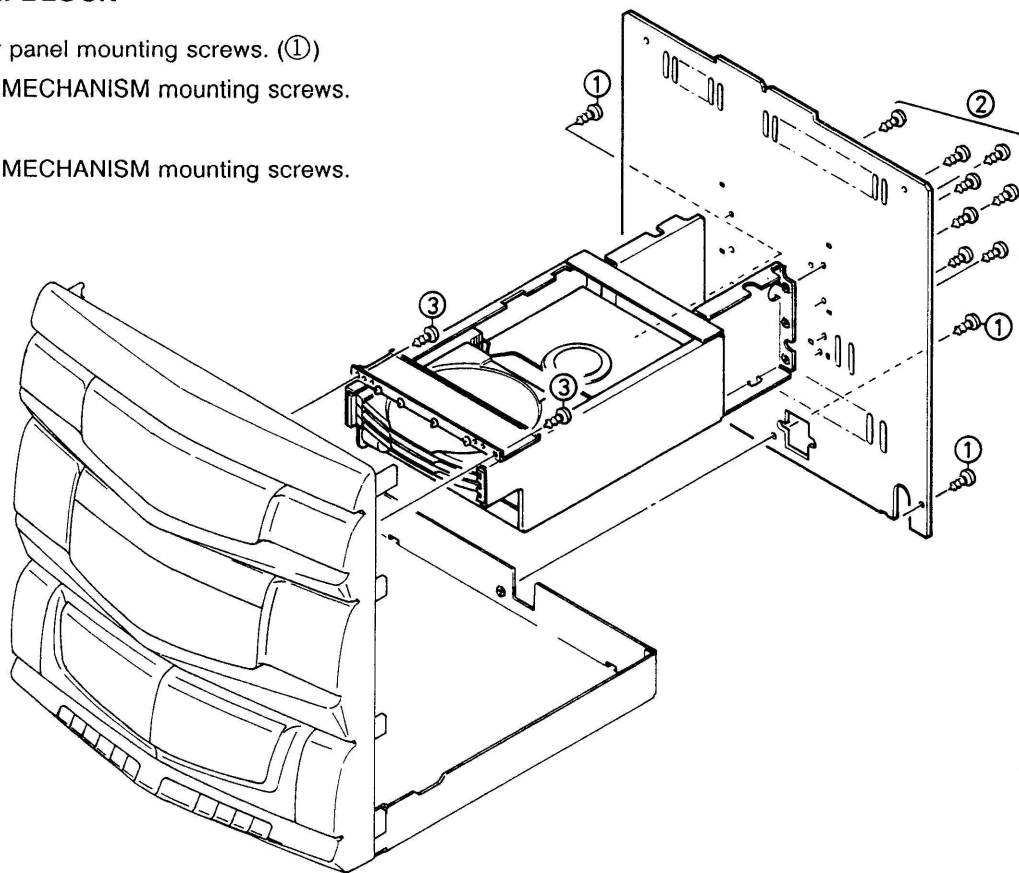
- (1) Remove the 12 side panel mounting screws. (①)
- (2) Remove the 2 turntable mounting screws. (②)
- (3) Remove the 2 rear panel mounting screws. (③)



REMOVAL AND INSTALLATION

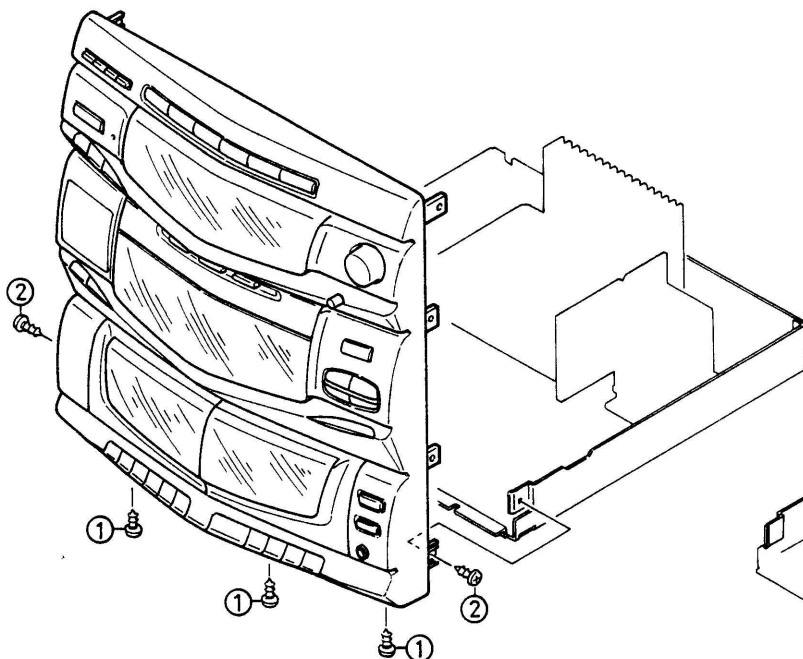
b. CD MECHANISM BLOCK

- (1) Remove the 3 rear panel mounting screws. (①)
- (2) Remove the 8 CD MECHANISM mounting screws. (②)
- (3) Remove the 2 CD MECHANISM mounting screws. (③)



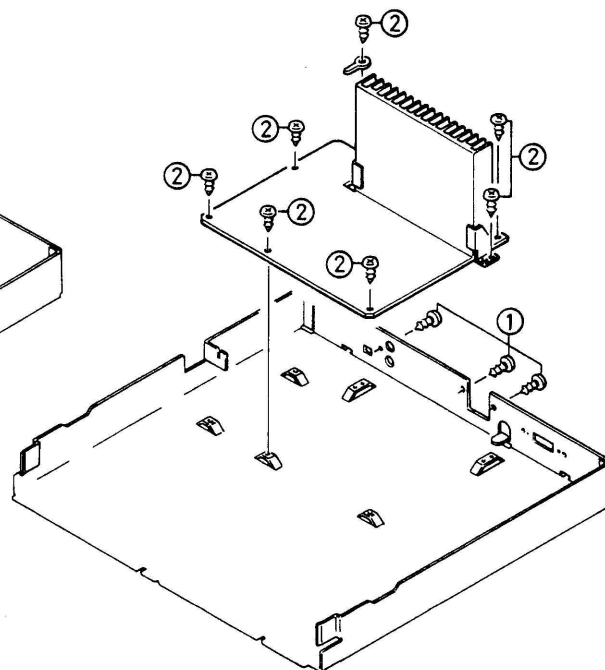
c. FRONT PANEL

- (1) Remove the 3 bottom cabinet mounting screws. (①)
- (2) Remove the front panel mounting screws. (②)



d. AMP. P.W.BOARD

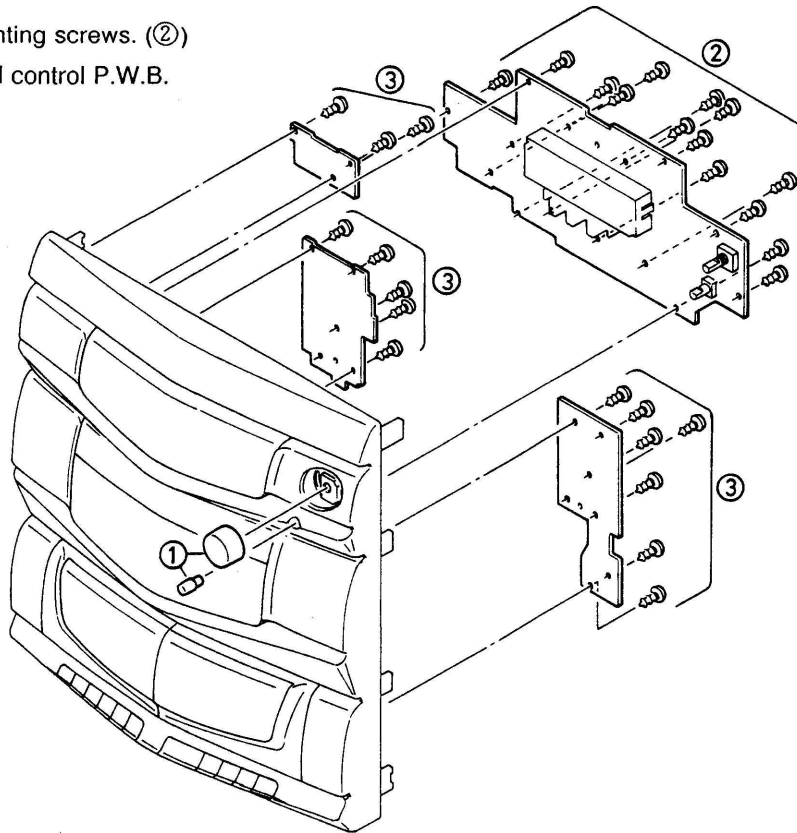
- (1) Remove the 3 socket mounting screws. (①)
- (2) Remove the 7 AMP. P.W.Board mounting screws. (②)



REMOVAL AND INSTALLATION

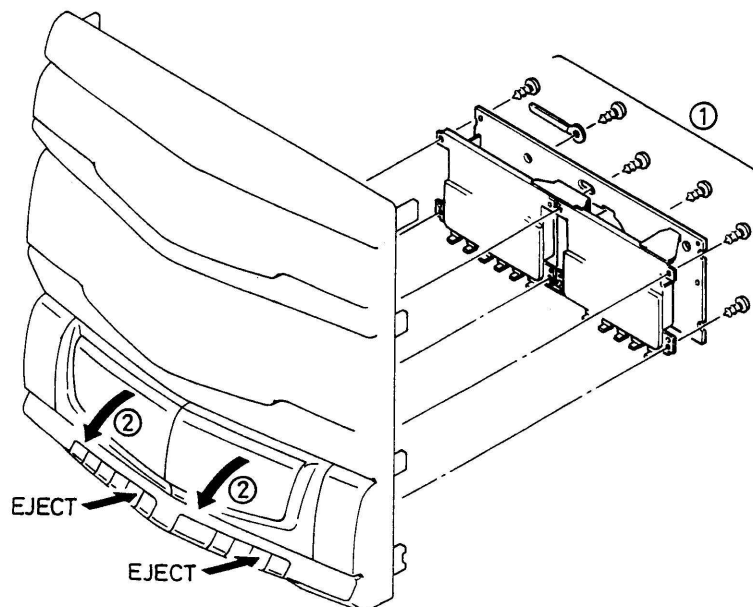
e. FRONT AND ETC. P.W.BOARDS

- (1) Remove the VOLUME and BALANCE control knobs.
(①)
- (2) Remove the FRONT P.W.B. mounting screws. (②)
- (3) Remove the FRONT OPERATION control P.W.B. mounting screws. (③)



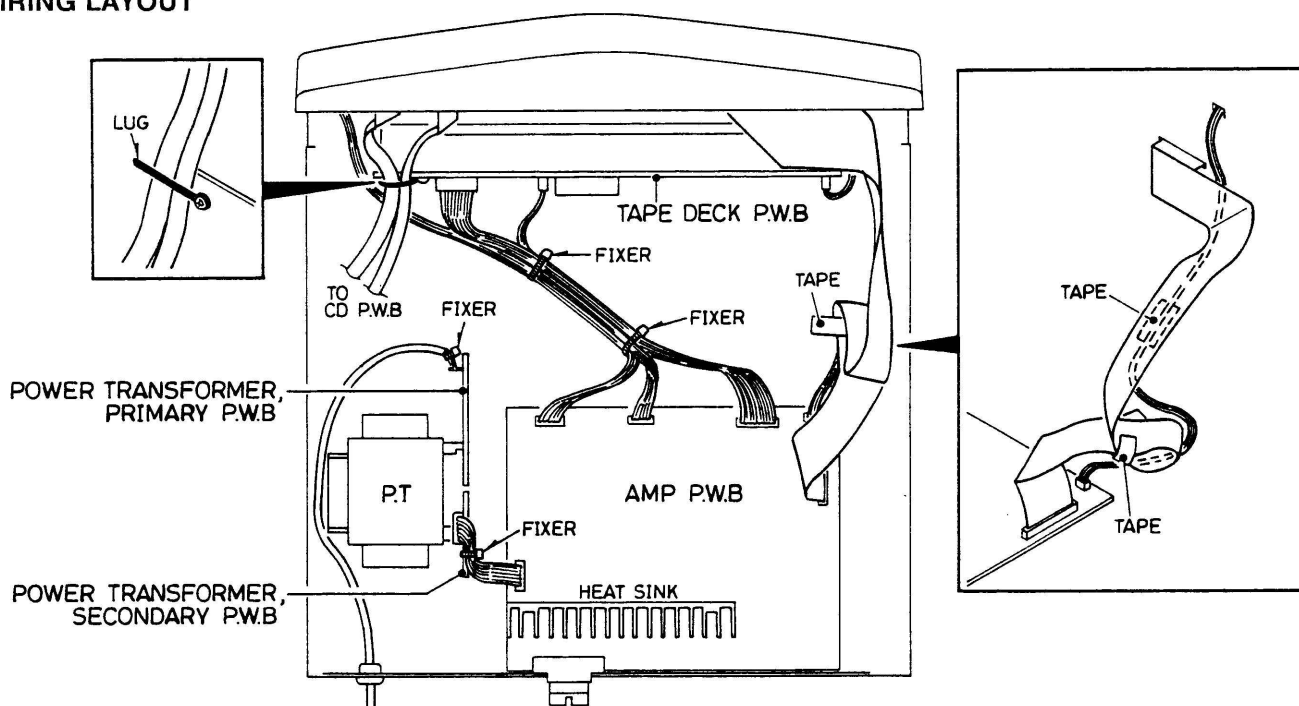
f. TAPE MECHANISM

- (1) Remove the TAPE MECHANISM mounting screws.
(①)
- (2) Press the EJECT buttons.
- (3) Open the cassette lids. (②)



REMOVAL AND INSTALLATION

g. WIRING LAYOUT



NOTES

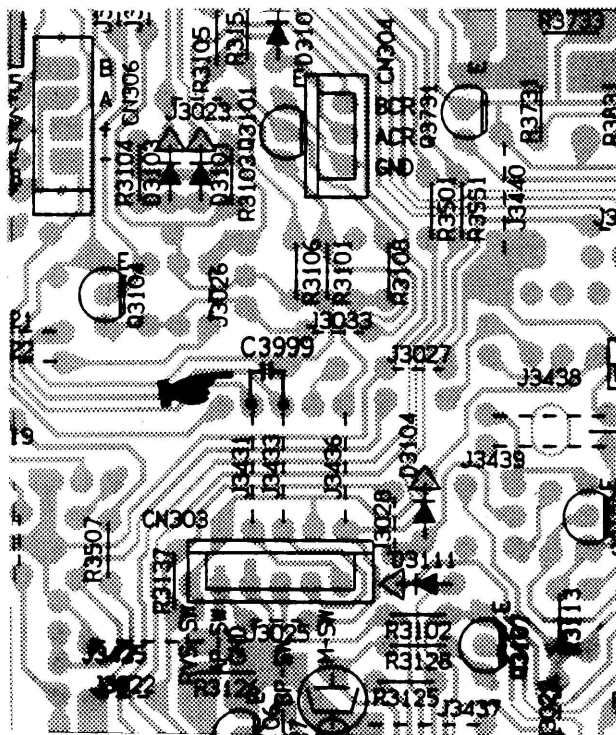
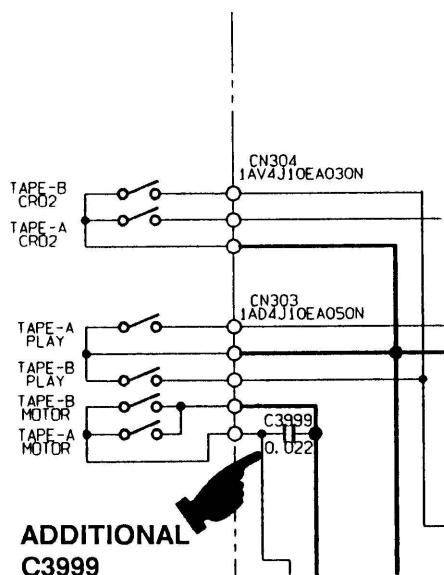
REGARDING THE TAPE DECK'S AUTO-STOP FUNCTION

- When the tape is REW, the auto-stop function causes tape transport to stop at the end of the tape. At this point, a malfunction may occur with the FUNCTION control (if it is in a position other than VIDEO).

Should this occur, add a capacitor as shown in the diagram.

(C3999 : Ceramic 0.022 μ F, 50V or 0.022 μ F, 25V)

Part No. (403 072 2703 or 403 003 2802)



TAPE DECK ADJUSTMENTS

a. PREPARATIONS FOR ADJUSTMENTS

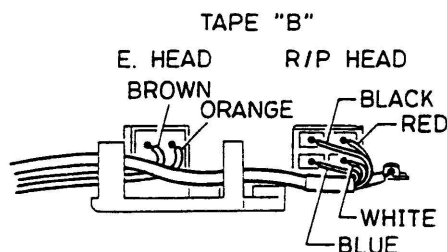
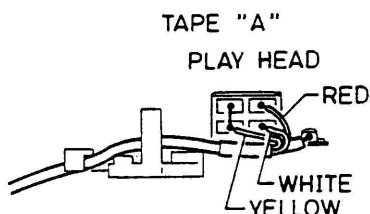
• Measuring instruments, tools.

- (1) Test tape MTT-114M (10 kHz)
TCW-211 (1,500 Hz) (Optional)
MTT-111 (3,000 Hz)
AC-224 (NORMAL)
- (2) Oscilloscope : (At least 10 MHz, dual channel)
- (3) Digital voltmeter (Input impedance 1 M Ω or more)
- (4) Automatic distortion analyzer or AC voltmeter
(- 80dB, input impedance 1M Ω or more)
- (5) AF-oscillator (400 Hz, 500 mV RMS)
- (6) Frequency counter (5 MHz or more)
- (7) Frequency counter, probe.
- (8) Screwdrivers (non-metallic) for adjustments.

b. HEAD REPLACEMENT AND AZIMUTH ADJUSTMENT

(a) Head replacement

- (1) After replacement, demagnetize the heads by using a degausser.
- (2) Be sure to clean the heads before attempting to make any adjustments.
- (3) Be sure both channels (1 and 2) are the same level (Using a dual-channel oscilloscope).
- (4) All wiring should be returned to the original position after work is completed.



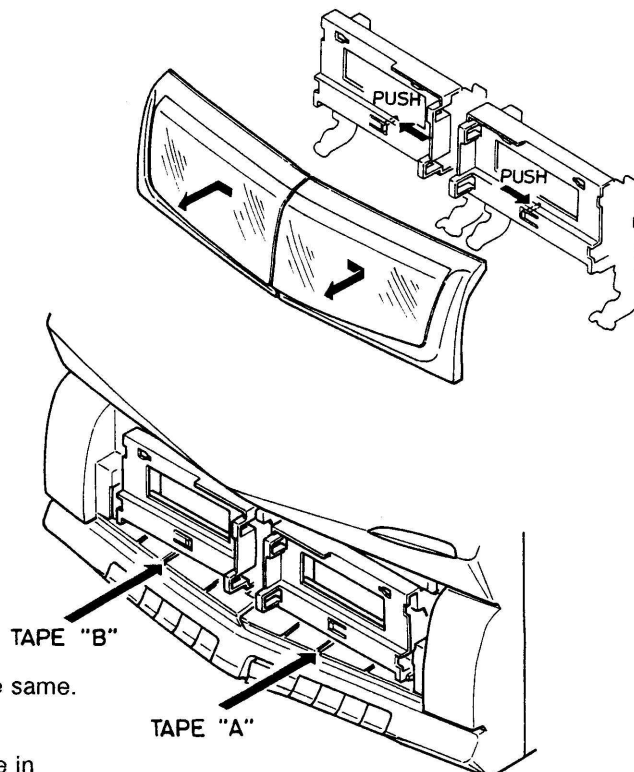
c. TAPE "A" & "B" HEAD AZIMUTH ADJUSTMENT

(a) Head adjustment

- (1) Load a test tape in Tape Deck "A" (MTT-114N, etc.: 10 kHz) for azimuth adjustment.
- (2) Press the PLAY (▶) button.
- (3) Use a flat-tip (-) screwdriver to turn the screw for azimuth adjustment so that the left and right outputs are maximized at the same phase during playback.
- (4) Press the STOP button.
- (5) Repeat procedure for Tape Deck "B".
- (6) After completion of the adjustment, use threadlock (TB1401B) to secure the azimuth-adjustment screws.

(b) Phase alignment

- (1) Prepare a dual-channel oscilloscope.
- (2) Set so that the left and right ranges of the oscilloscope are the same.
- (3) Play the test tape (MTT-114N, etc.: 10 kHz).
- (4) Adjust so that the waveforms for the left and right channels are in alignment, as shown in the illustration.

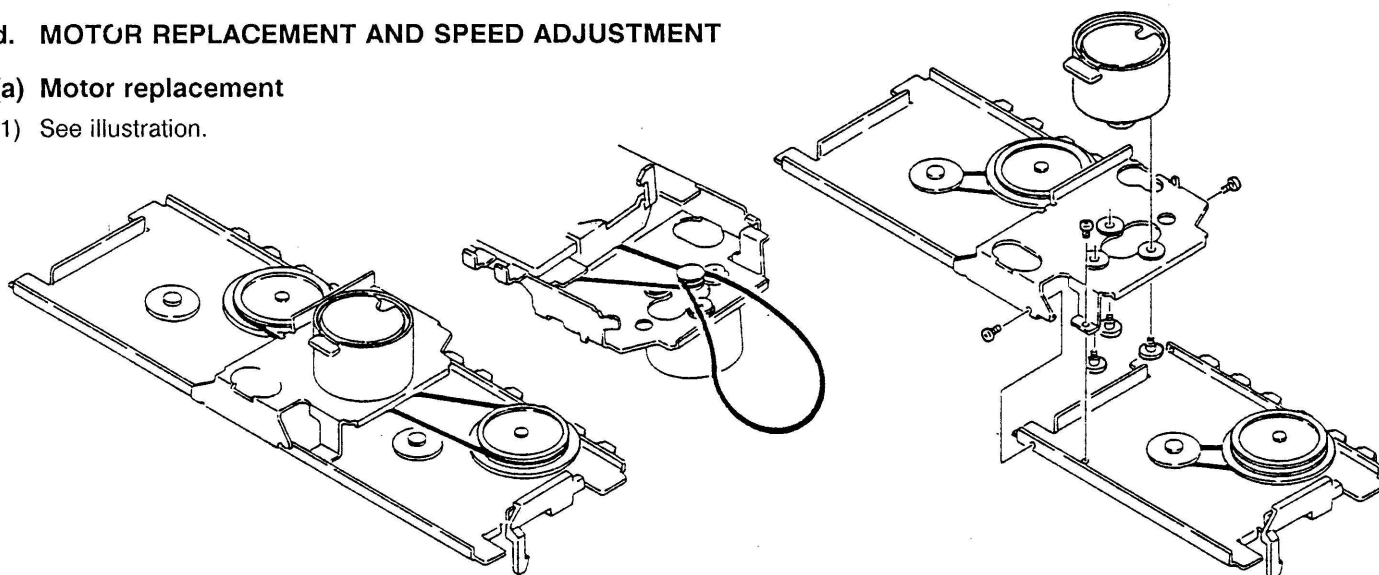


TAPE DECK ADJUSTMENTS

d. MOTOR REPLACEMENT AND SPEED ADJUSTMENT

(a) Motor replacement

- (1) See illustration.

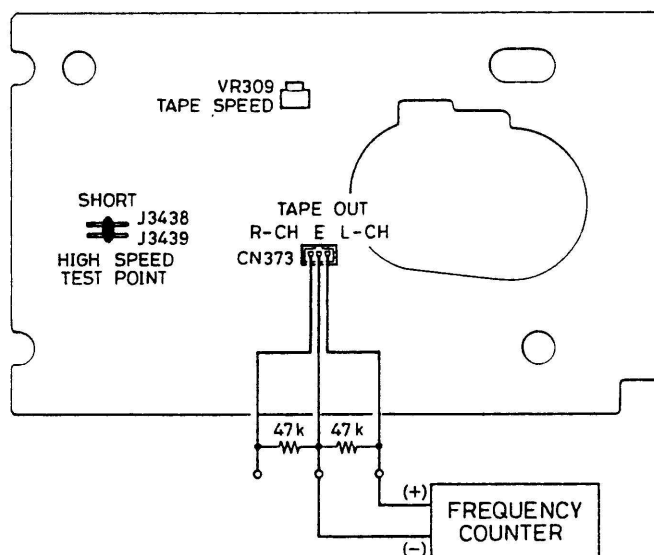


(b) Motor speed adjustments

- Make the adjustment near where the test tape finishes winding.

(c) Normal speed

- (1) Insert the test tape (MTT-111, etc. 3,000 Hz) into Tape Deck A.
- (2) Press Tape Deck A's PLAY button.
- (3) Adjust VR309 so that the frequency counter shows a reading of 3,000Hz.
- (4) Press Tape Deck A's STOP button.
- (5) Insert the test tape into Tape Deck B.
- (6) Press Tape Deck B's PLAY button.
Checking the frequency counter shows a reading of 3,000 Hz (- 40, + 40 Hz).
- (7) Press Tape Deck B's STOP button.



(d) High speed

- (1) Insert the test tape (TCW-211, etc. 1,500 Hz optional) into Tape Deck A.
- (2) Press Tape Deck A's PLAY button.
- (3) Set to the high-speed condition.
- (4) Short-circuit test points J3438 and J3439.
- (5) Checking the frequency counter reading is 3,000 Hz.
- (6) Press Tape Deck A's STOP button.
- (7) After the completion of the adjustment, remove the short-circuit between test points J3438 and J3439.

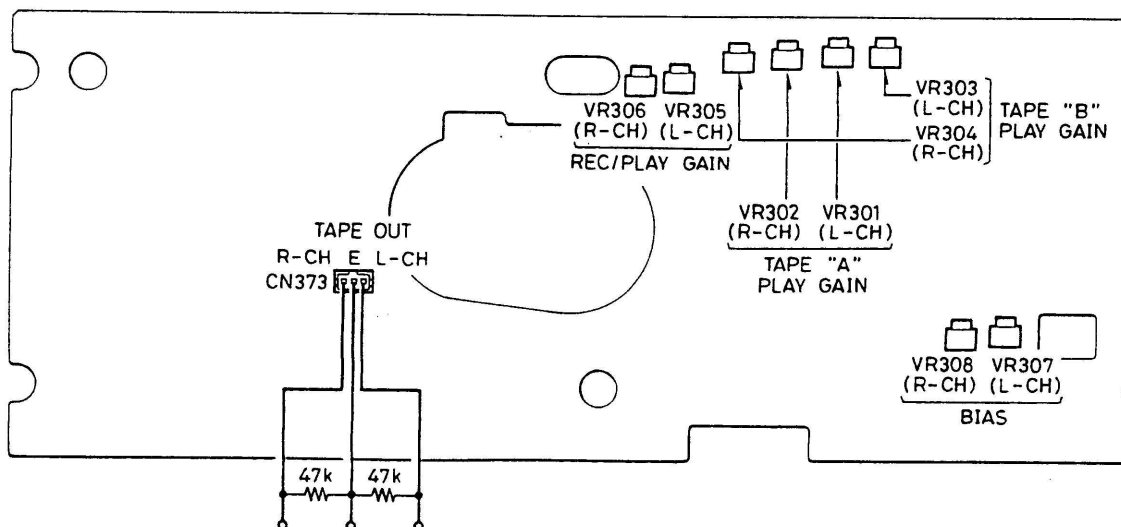
e. CHECKING THE MECHANISM TORQUES

- Clean the head, capstan and pinch roller before making any measurement.

Measurement	Take-up torque	Back tension	Tape tension
Cassette for measurement	PLAY: TW-2111A F.FWD/REW: TW-2231	PLAY: TW-2111A	Drive-power cassette TW-2412
PLAY	30~ 60 gr.cm	1.5~ 4.5 gr.cm	60 gr or more
F.FWD / REW	55~ 120 gr.cm	—	—

AMPLIFIER ADJUSTMENTS

- Make the following adjustments after first cleaning the head and checking the adjustment of the head azimuth.



Adjustment Item	Test tape	DOLBY NR SW.	Measuring Instrument	Input connection	Output connection	Adjustment location	Adjustment value
(a) Playback output adjustment	TCC-130 (Dolby tape)	OFF	AC-voltmeter	-	TAPE OUT (CN373)	(TAPE "A") SVR301 SVR302 (TAPE "B") SVR303 SVR304	580 mV
(b) Recording / Playback gain adjustment	AC-224 (Normal)	OFF	AC-voltmeter AF-oscillator	VIDEO - 24 dB, 1 kHz	TAPE OUT (CN373)	SVR305 SVR306	0 ± 1 dB
(c) Recording / Playback frequency response adjustment	AC-224 (Normal)	OFF	AC-voltmeter AF-oscillator	VIDEO - 44 dB, 1 kHz, 10 kHz	TAPE OUT (CN373)	SVR307 SVR308	0 ± 1 dB at 1 kHz and 10 kHz

(a) Playback output adjustment

(1) TAPE "A"

Play the test tape and adjust SVR301 (L-CH) and SVR302 (R-CH) so that playback output becomes 580mV.

(2) TAPE "B"

Play the test tape and adjust SVR303 (L-CH) and SVR304 (R-CH) so that playback output becomes 580mV.

(b) Recording / Playback gain adjustment

DOLBY NR switch : OFF

Input signal : - 24 dB, 1 kHz

Tape to be used : NORMAL (AC-224, etc.)

- (1) Introduce input signals to the VIDEO terminals, and with the unit in the REC, PAUSE mode.
- (2) Record the input signal.
- (3) Press the REWIND button and rewind the tape to the beginning of the recording just made.
- (4) Press the PLAY button.
- (5) Adjust SVR305 (L-CH) and SVR306 (R-CH) so that the recording and playback output level difference become ± 1dB.
- (6) Repeat steps (1) to (5).

(c) Recording / Playback frequency response adjustment

DOLBY NR switch : OFF

Input signal : - 44 dB, 1 kHz, 10 kHz

Tape to be used : NORMAL (AC-224, etc.)

- (1) Introduce input signals to the VIDEO terminals.
- (2) With the unit in the REC mode.
Record these input signals (1 kHz → 10 kHz → 1 kHz → 10 kHz).
- (3) Press the REWIND button and rewind the tape to the beginning of the recording just made.
- (4) Press the PLAY button.
- (5) Adjust SVR307 (L-CH) and SVR308 (R-CH) so that the 10 kHz and 1 kHz output level difference become ± 1 dB.
- (6) Repeat steps (1) to (5).

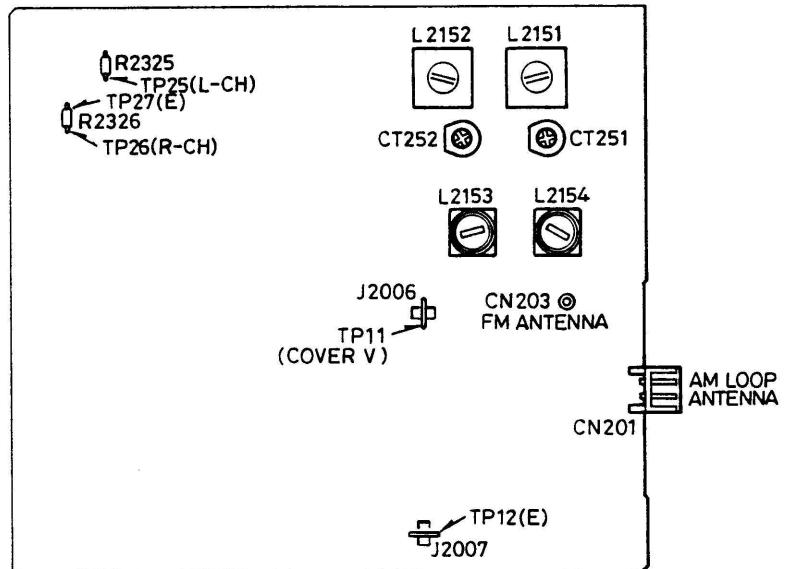
TUNER ADJUSTMENTS

- Use a plastic screw driver for adjustments.
- Speaker impedance : 6 ohm
- Standard Output : 500 mW
- FM MODE switch : STEREO
- TUNING

FM : 87.5 - 108.0 MHz (50 kHz step)

MW : 522 - 1,611 kHz (9 kHz step)

LW : 144 - 288 kHz (9 kHz step)



SG RF Level : 75 ohm Open Voltage $\text{dB}_{\mu\text{V}}$

Antenna : 75 ohm unbalanced , Modulation : 1 kHz,

Dev. : $\pm 22.5 \text{ kHz}$ (MONO) $\pm 22.5 \text{ kHz}$ (STEREO) $\pm 6.75 \text{ kHz}$ (PILOT)

a. CHECKING THE FM BAND

Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope or DC voltmeter
		Input	Output				
1	Tuning coverage	---	Connect to Digital DC voltmeter TP 11 (H), TP 12 (G)	87.5 MHz	Low end	---	(more than 0.8V)
				108.0 MHz	High end	---	(less than 8.0V)
2	Tracking	FM Antenna (SG = $8\text{dB}_{\mu\text{V}}$)	Connect to VTVM TP 25 (H) or TP 26 (H), TP 27 (G)	90.0 MHz	90.0 MHz	---	Max.
				106.0 MHz	106.0 MHz	---	

b. ADJUSTMENTS OF MW BAND

SG Modulation : 1,000 Hz, 30% IRE Loop Antenna

Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope or DC voltmeter
		Input	Output				
1	Tuning coverage	---	Connect to Digital DC voltmeter TP11 (H), TP12 (G)	522 kHz	Low end	L2153	$1.0 \pm 0.05\text{V}$
				1611 kHz	High end	---	(less than 9.0V)
2	Tracking	Connect AM SG to Test Loop (SG = $80\text{dB}_{\mu\text{V}}$)	Connect VTVM TP25 (H) or TP26 (H), TP27 (G)	603 kHz	603 kHz	L2152	Max.
				1404 kHz	1404 kHz	CT252	

c. ADJUSTMENTS OF LW BAND

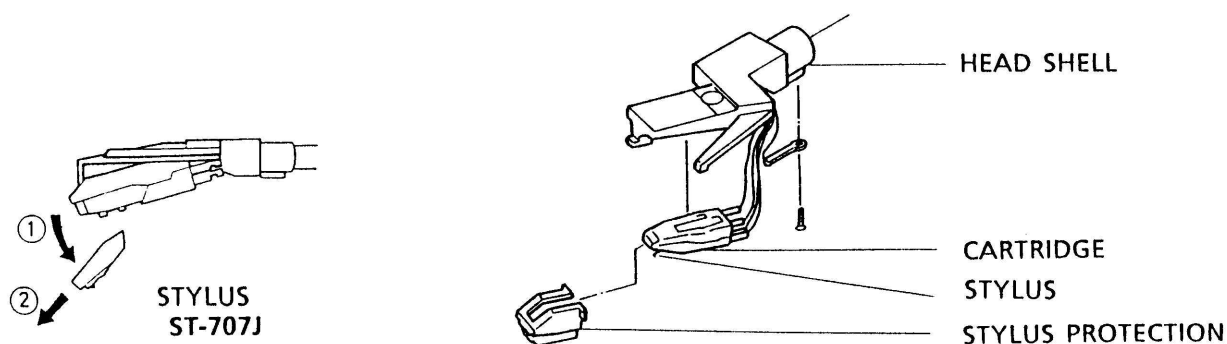
Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope or DC voltmeter
		Input	Output				
1	Tuning coverage	---	Connect to Digital DC voltmeter TP11 (H), TP12 (G)	144 kHz	Low end	L2154	$1.5 \pm 0.05\text{V}$
				288 kHz	High end	---	(less than 9.0V)
2	Tracking	Connect AM SG to Test Loop (SG = $85\text{dB}_{\mu\text{V}}$)	Connect to VTVM TP25 (H) or TP26 (H), TP27 (G)	162 kHz	162 kHz	L2151	Max.
				279 kHz	279 kHz	CT251	

REPLACEMENT OF STYLUS

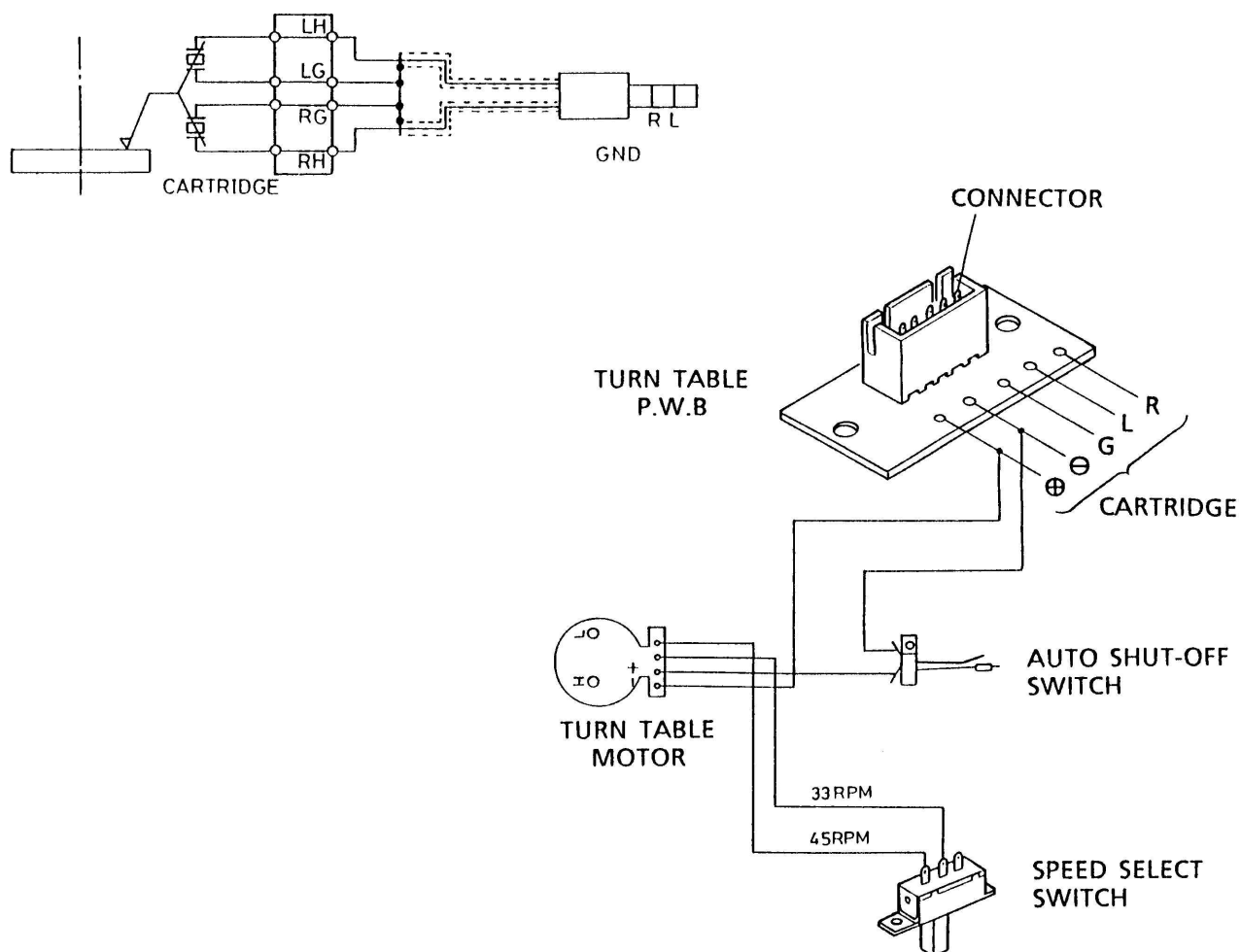
After a long period off use or when an inferior sound is obtained, the stylus assembly should be replaced with a new one.

To remove the stylus assembly, pull it downwards gently.

To mount the new one, re-assemble in reverse order.



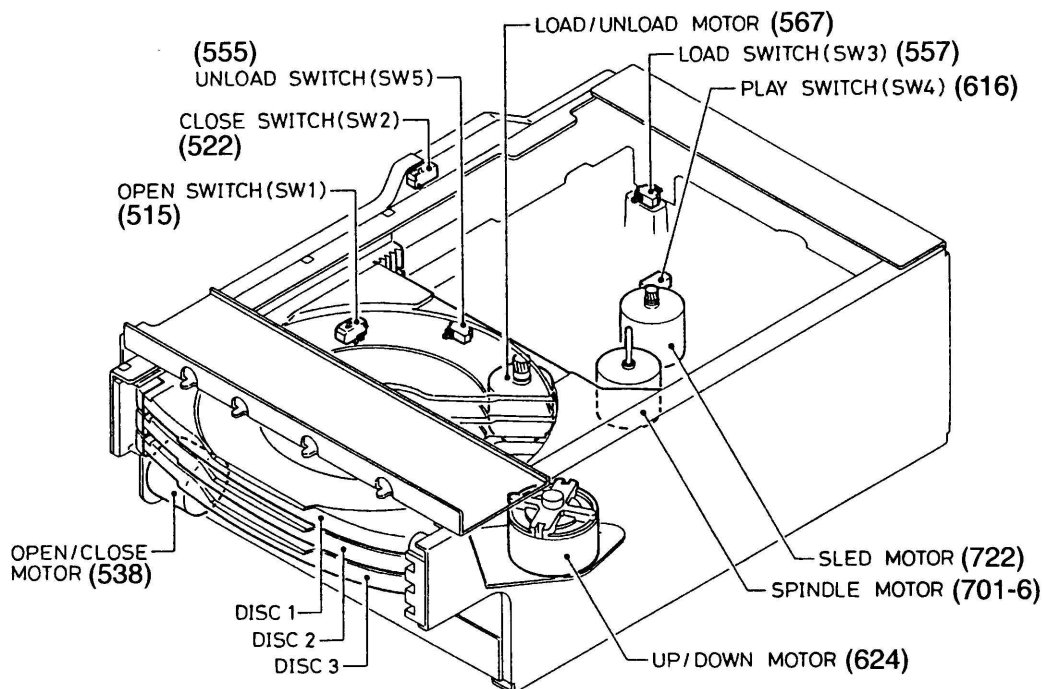
SCHEMATIC & WIRING DIAGRAM (TURNTABLE)



CD CHANGER OPERATION DESCRIPTION

- This set is capable of stocking and playing up to 3 CDs.
- While playing a CD, other discs can be replaced.
In this case, press the button for the disc No. you wish to remove, and then press the OPEN/CLOSE button.
- When the "POWER" button is turned off, the power turns off after the discs are loaded in the disc trays.

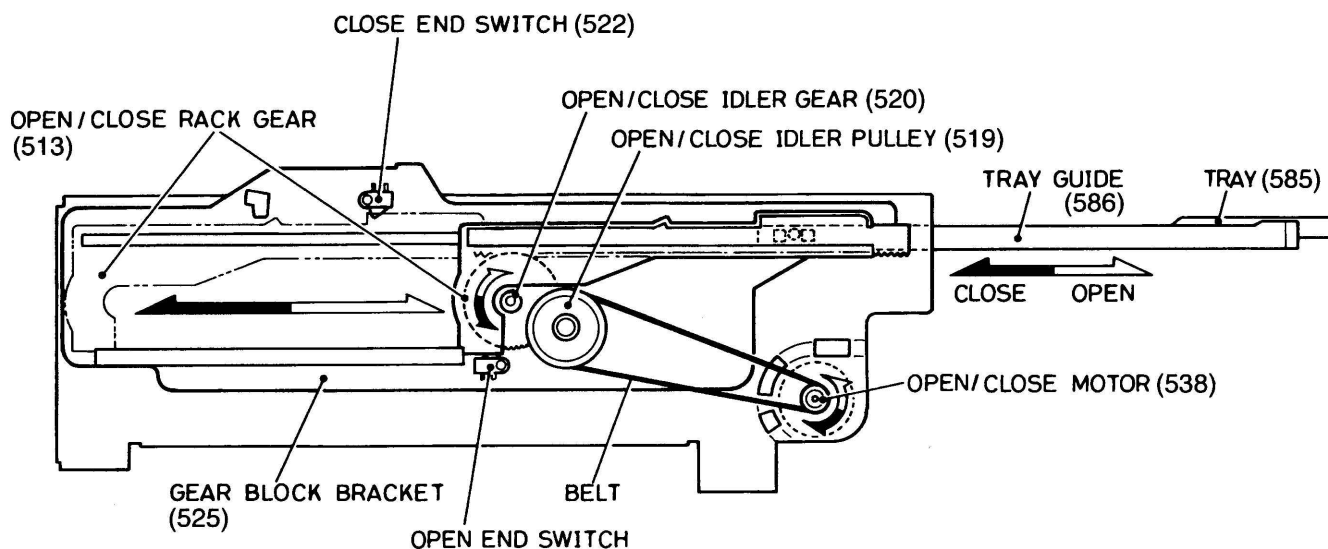
a. MOTOR & MECHANISM SWITCHES LAYOUT



b. FUNCTION

(1) OPEN/CLOSE

- (a) The rotation of the OPEN/CLOSE MOTOR rotates the OPEN/CLOSE IDLER GEAR via the BELT and PULLEY, and the RACK GEAR which is intermeshed with the OPEN/CLOSE IDLER GEAR moves forward during "OPEN", backwards during "CLOSE".

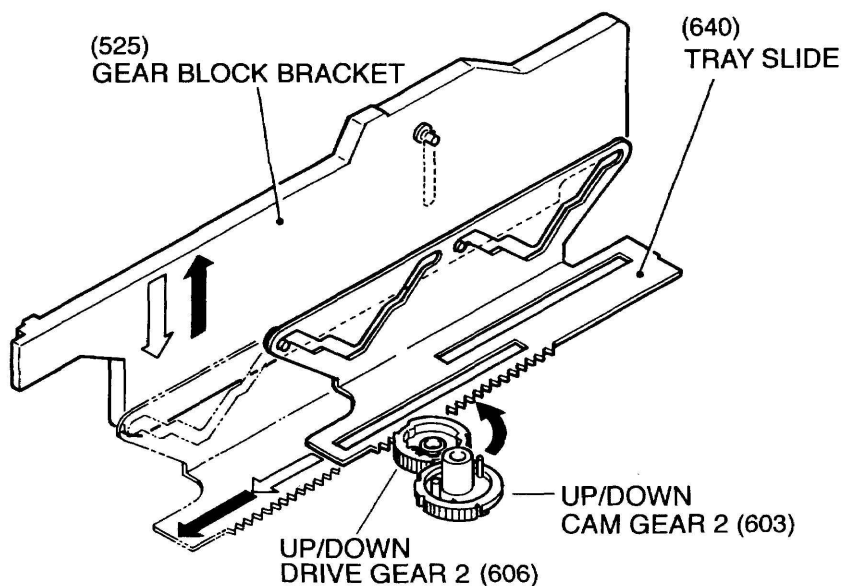
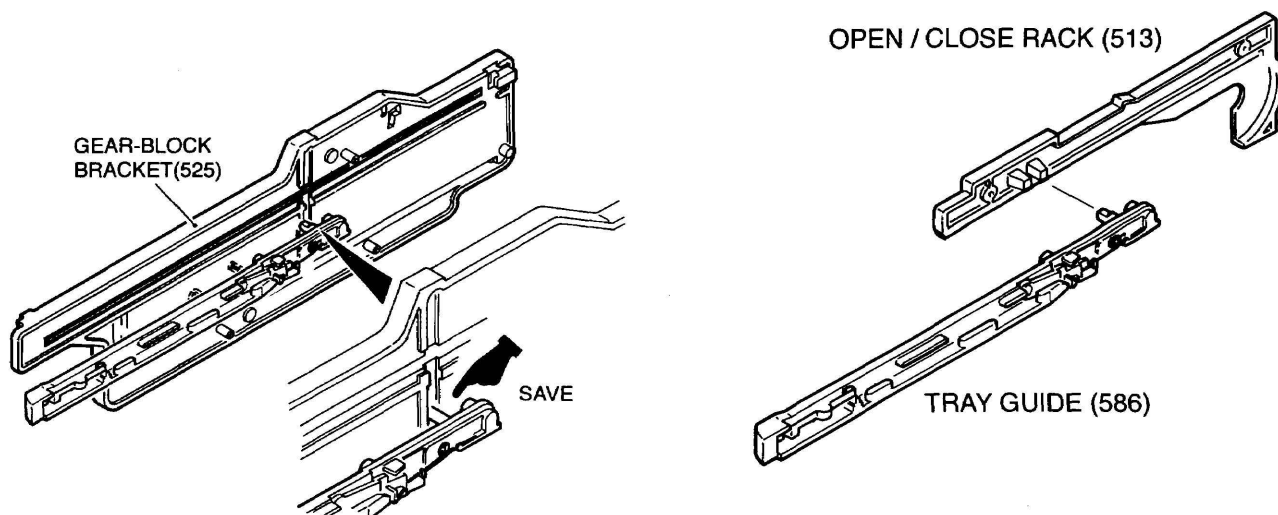
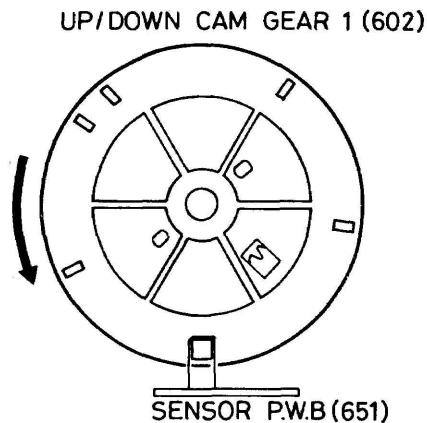


CD CHANGER OPERATION DESCRIPTION

- The HOME POSITION is reached when the largest square hole in the UP/DOWN CAM GEAR (602) is between the SENSORS.

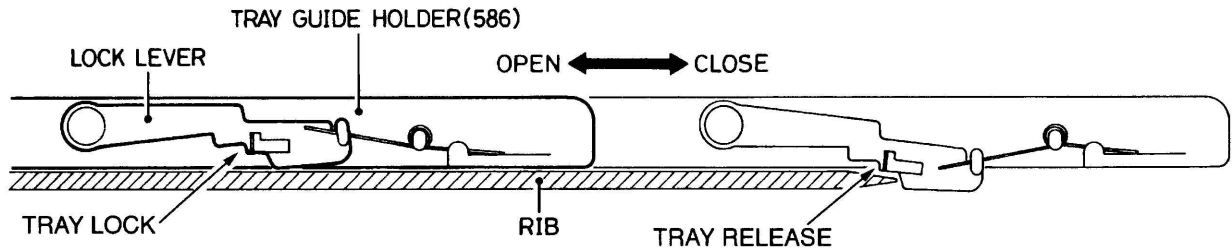
(b) Rotate the UP/DOWN CAM GEAR (602) counterclockwise (with OPEN/CLOSE during PLAY) or clockwise (with normal OPEN/CLOSE), raise the GEAR-BLOCK BRACKET, stop at the selected TRAY, hold the TRAY GUIDE by means of the OPEN/CLOSE RACK and save the other TRAY GUIDES.

(c) The OPEN/CLOSE motor starts running, the OPEN/CLOSE RACK moves forward, the TRAY LOCK LEVER is raised to lock the TRAY, and the OPEN operation commences.



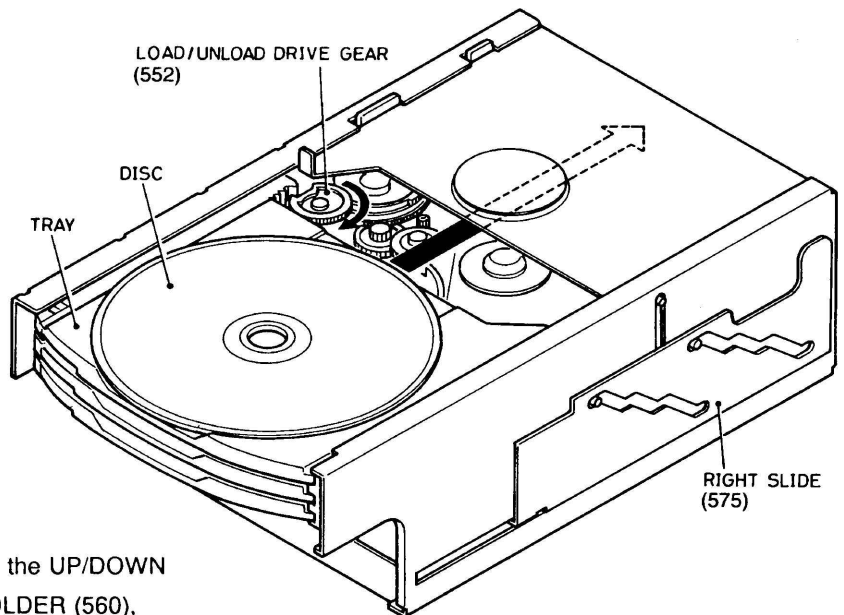
CD CHANGER OPERATION DESCRIPTION

- (d) When the TRAY closes and it reaches the tip of the RIB part of the LEFT TRAY GUIDE (589), the LOCK LEVER is lowered to release the TRAY, and loading proceeds.

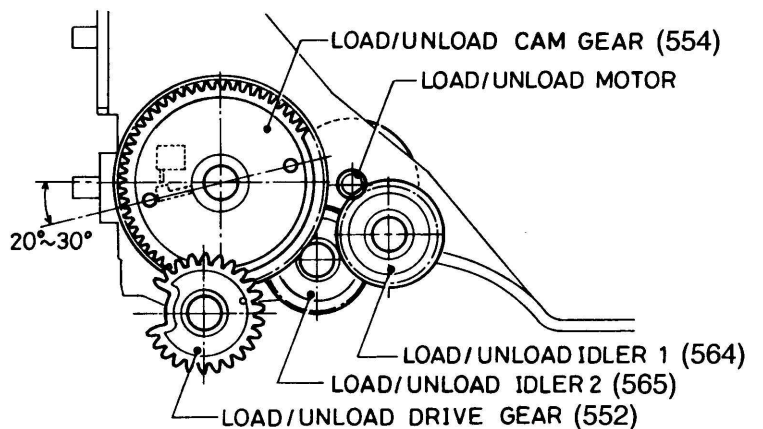


(2) LOADING

- (a) The rotation of the LOAD/UNLOAD MOTOR rotates the LOAD/UNLOAD DRIVE GEAR (552) in the clockwise direction.
- (b) The DRIVE GEAR and the gear portion of the TRAY mesh together and the TRAY moves backwards.

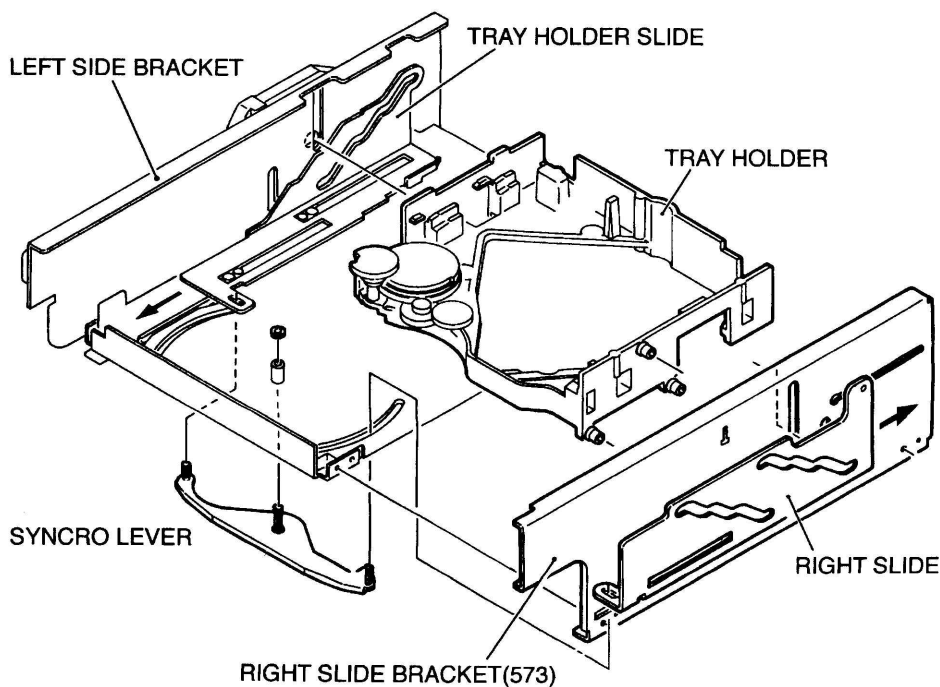
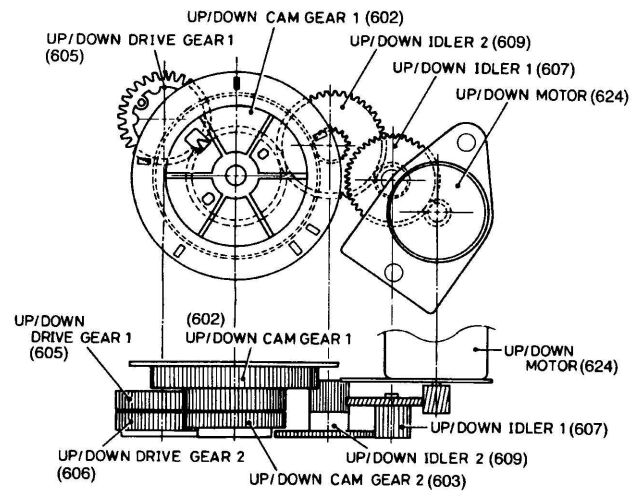
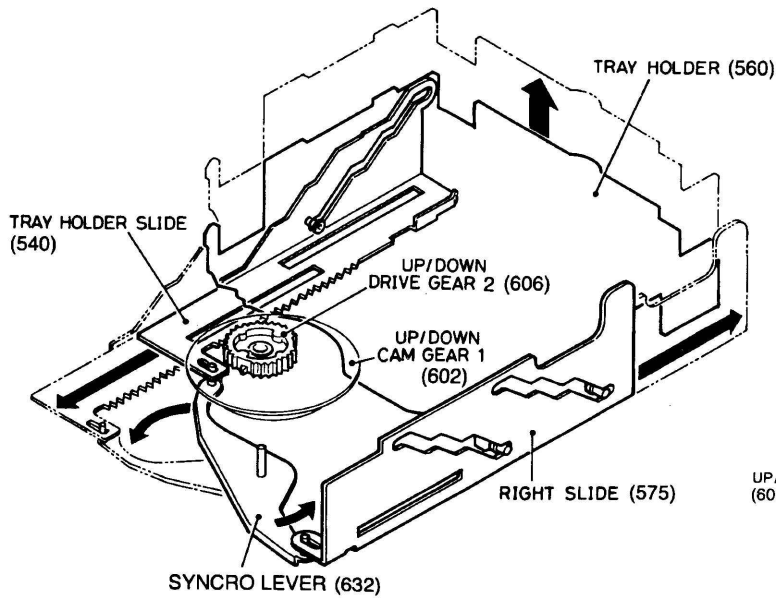


- (c) The completion of TRAY movement causes the UP/DOWN MOTOR to operate and lower the TRAY HOLDER (560), putting the unit to chucking status.



CD CHANGER OPERATION DESCRIPTION

- (d) The rotation of the UP/DOWN MOTOR (624) rotates the UP/DOWN DRIVE GEAR (605) in the counter-clockwise direction. In connection with this, the TRAY HOLDER SLIDE (540) moves forward, and at the same time, the RIGHT SLIDE (575) is moved backwards by the SYNCRO LEVER (632).



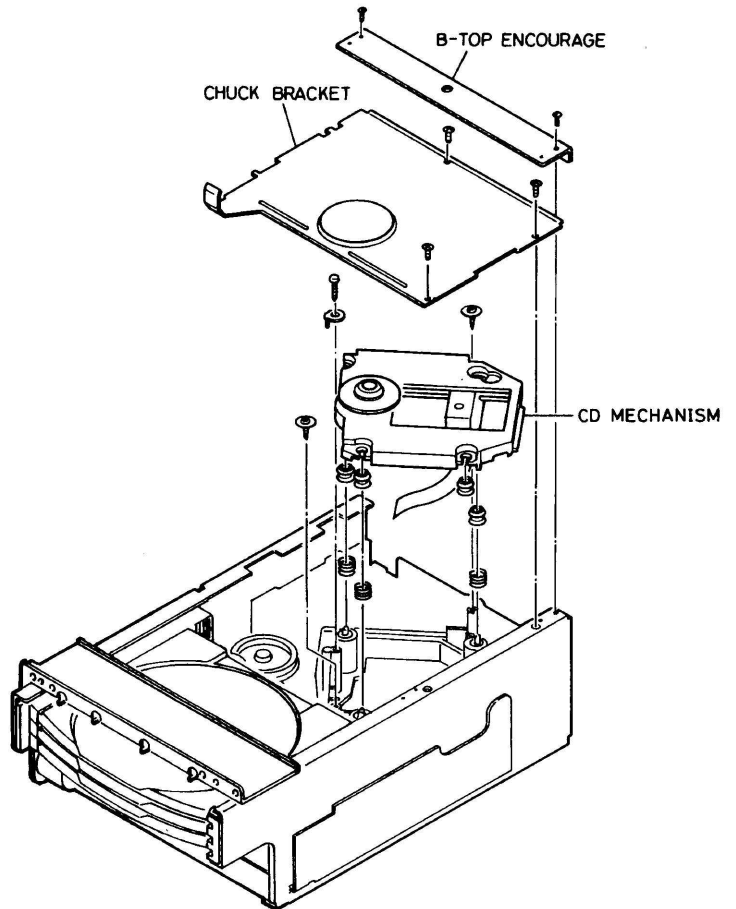
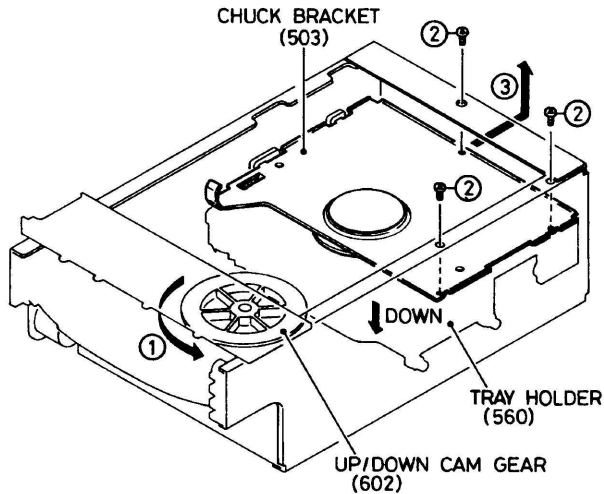
CD CHANGER REPLACEMENT

a. LOAD/UNLOAD FUNCTION

- (1) Remove the B TOP ENCOURAGE.
- (2) Remove the CD MECHANISM.

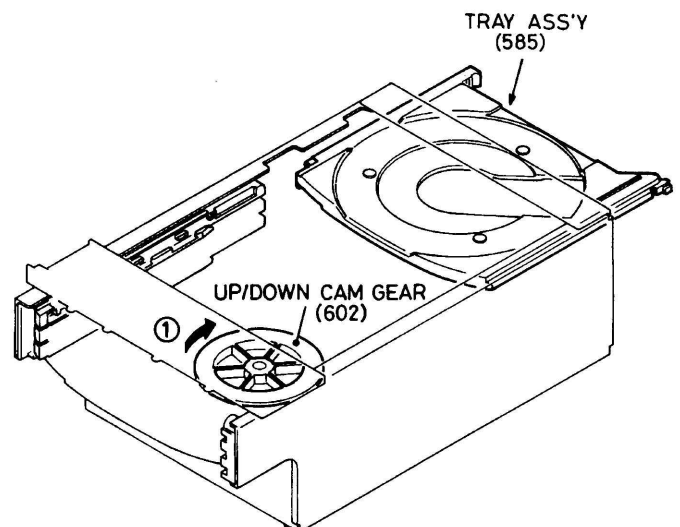
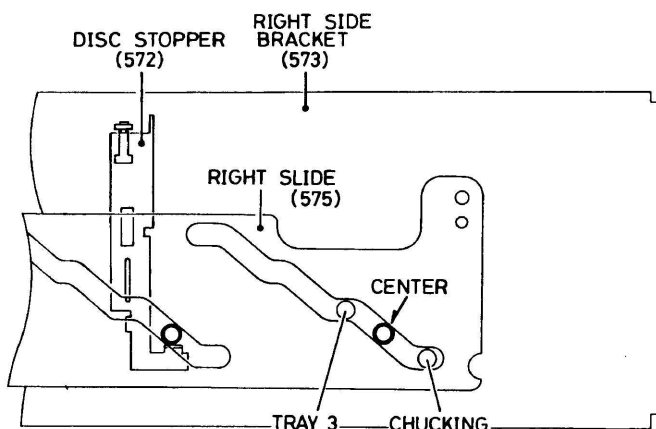
b. HOW TO REMOVE THE TRAYS

- (1) Remove the CHUCK BRACKET.



- (2) Rotate the UP/DOWN CAM GEAR (602) and position the collar part of the TRAY HOLDER visible from the RIGHT SLIDE at the midpoint between the CHUCKING and TRAY 3.

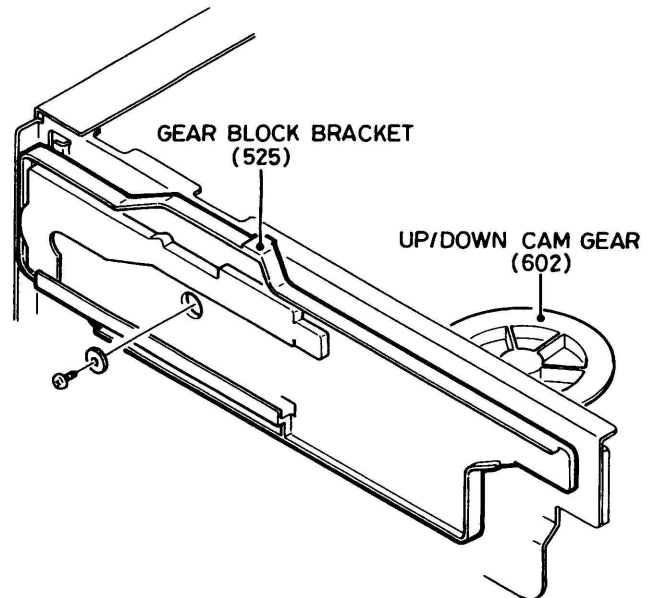
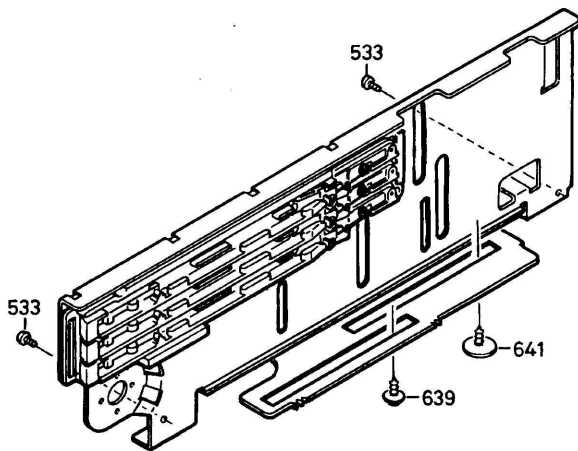
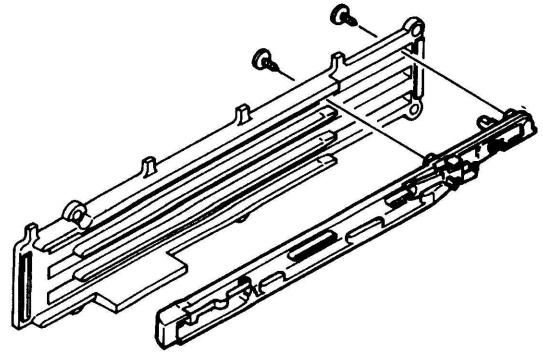
- (3) Remove the three TRAYS through the gap at the back.



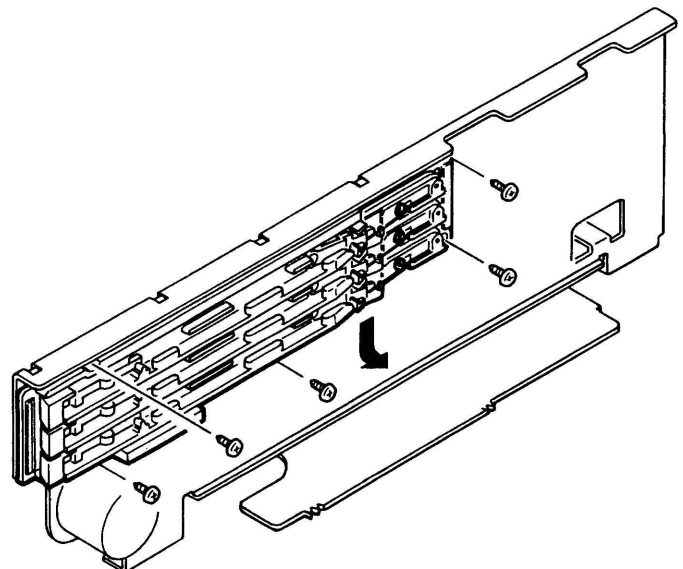
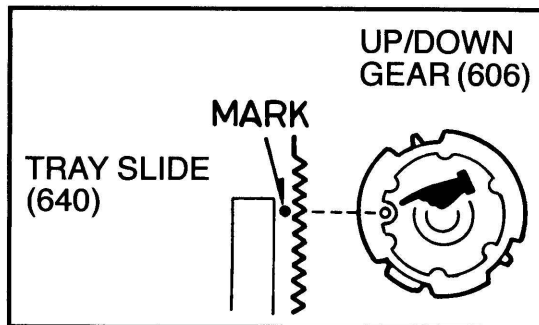
CD CHANGER REPLACEMENT

c. REPLACING THE TRAY GUIDE

- Have the LEFT TRAY GUIDE HOLDER and TRAY GUIDE ready before proceeding.
- (1) Turn the UP/DOWN CAM GEAR (602) and remove the setscrew of the TRAY HOLDER from the hole in the GEAR BLOCK BRACKET.
 - (2) Turn the UP/DOWN CAM GEAR (602) counterclockwise as far as it will go, and remove the SCREWS (533 x 2, 639, 641).

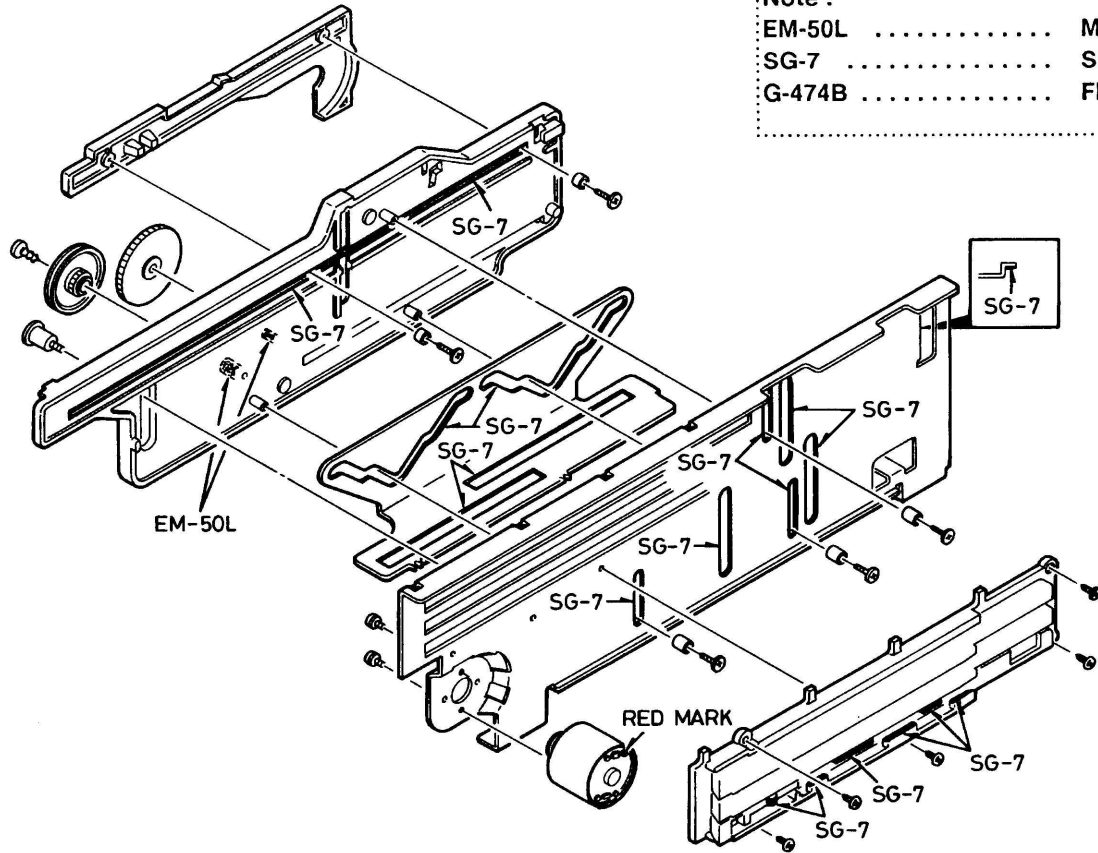


- (3) Remove the five setscrews of the LEFT TRAY GUIDE HOLDER, and remove it in the direction of the arrow.
- (4) When assembling the parts, align the TRAY SLIDE (640) and UP/DOWN DRIVE GEAR (606).



CD CHANGER REPLACEMENT

d. LEFT SIDE BRACKET

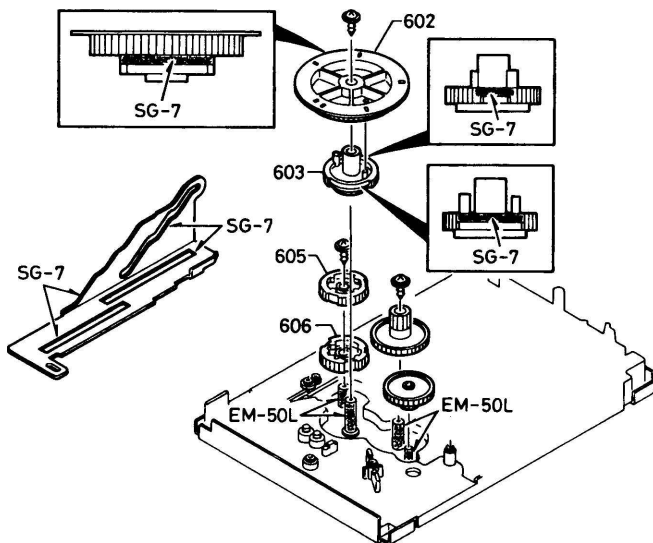


OF THE LUBRICATION

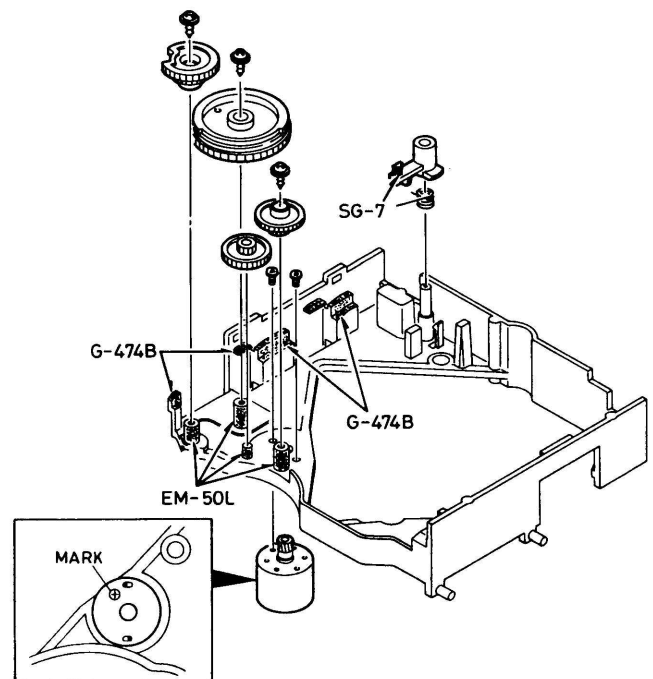
Note :

EM-50L	MOLYKOTE, EM-50L
SG-7	SAN GREASE, SG-7
G-474B	FLOIL OIL, G-474B

e. UP/DOWN CAM GEAR



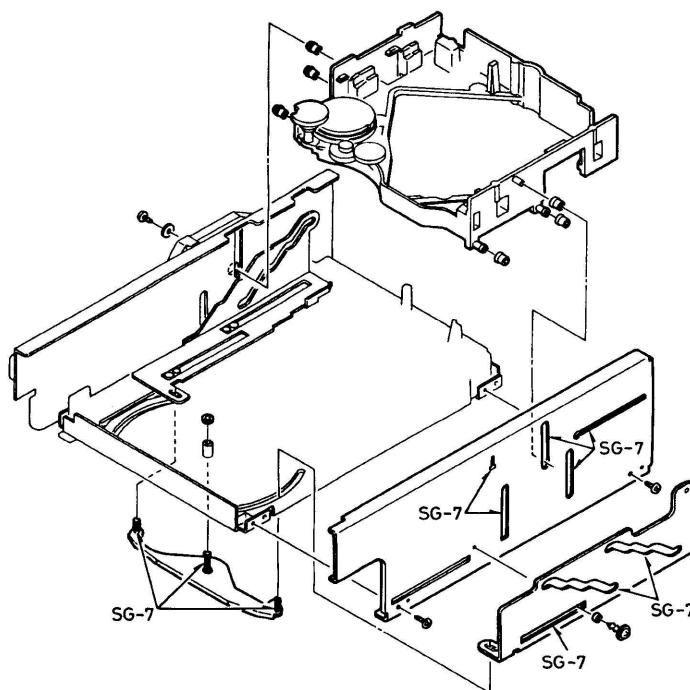
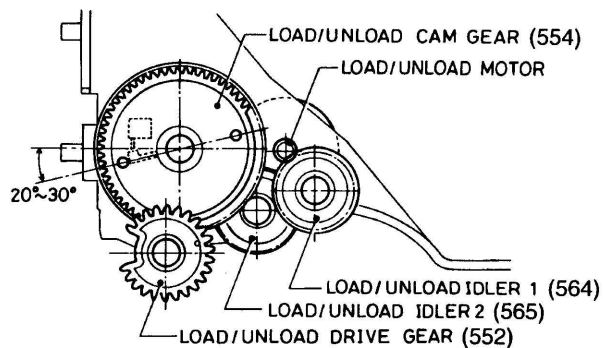
f. LOAD/UNLOAD GEAR



CD CHANGER REPLACEMENT

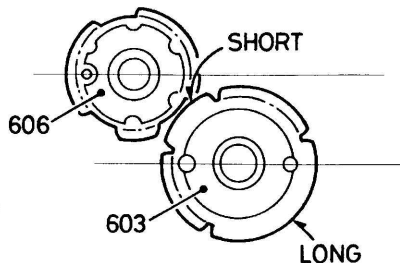
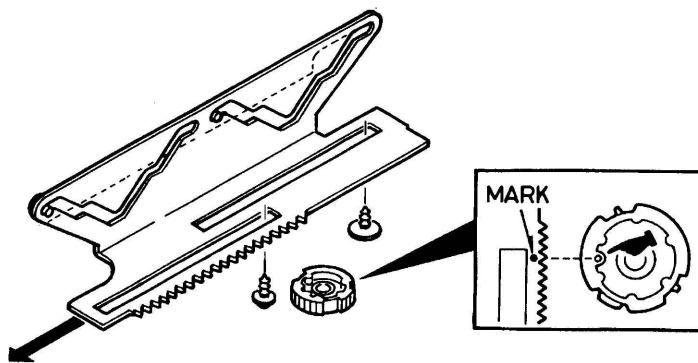
g. SETTING UP THE LOAD/UNLOAD GEAR

h. TRAY HOLDER



i. SETTING UP THE TRAY SLIDE AND UP/DOWN DRIVE GEAR (603)

- (1) Slide the TRAY SLIDE forward until it goes no further.
- (2) Align the round mark on the UP/DOWN DRIVE GEAR with the mark area on the TRAY SLIDE, and install.
- (3) Align the shorter flat part of the UP/DOWN CAM GEAR (603), and install.

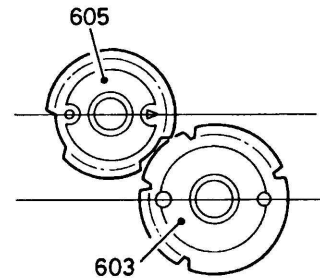


- Set the parts in such a way that the round marks on the two GEARS (606, 603) are horizontal.

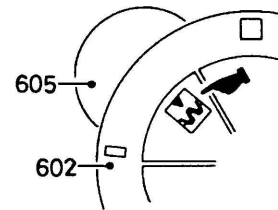
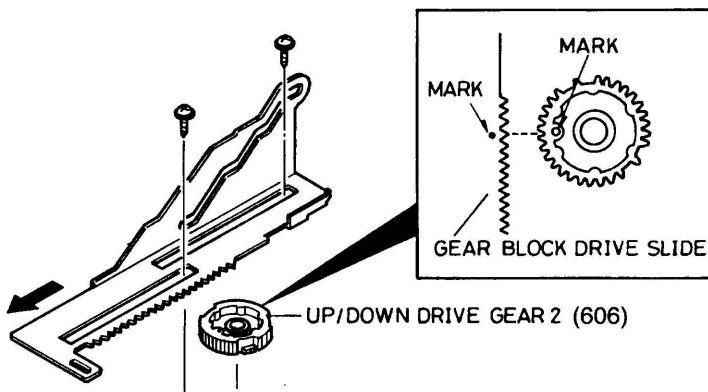
CD CHANGER REPLACEMENT

j. SETTING UP THE TRAY HOLDER AND UP/DOWN DRIVE GEAR (605)

- (1) Loosen and install the SET SCREW of the SENSOR P.W.B.
- (2) Slide the TRAY HOLDER SLIDE forward until it goes no further.
- (3) Align the round mark on the UP/DOWN GEAR (605) with the mark area on the TRAY HOLDER SLIDE, and install.
- (4) Secure the screw.
- (5) As shown in the figure, place the UP/DOWN DRIVE GEAR (603) and UP/DOWN CAM GEAR (605) in such a way that they are horizontal.
- (6) Align with the triangular mark through the hole through which the UP/DOWN CAM GEAR teeth are visible.
- (7) Secure the SCREW of the SENSOR and GEAR.

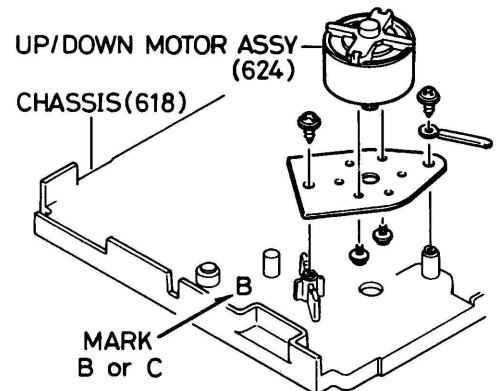


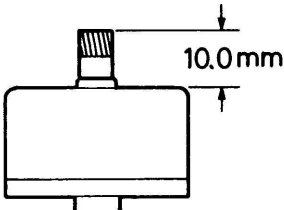
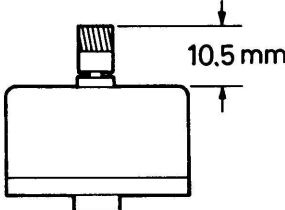
- Set the parts in such a way that the round marks on the two GEARS (606, 603) are horizontal.



k. TRAY HOLDER SLIDE

There are two types UP/DOWN MOTOR (624) which have been used. These UP/DOWN MOTOR (624) can be used not interchangeably. Use the following procedure in accordance with which type of UP/DOWN MOTOR (624) and chassis (618) you will replace. Please be sure which type of motor you have before serving.



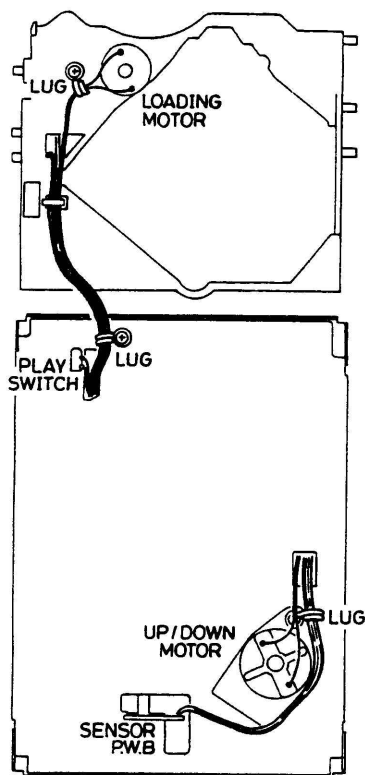
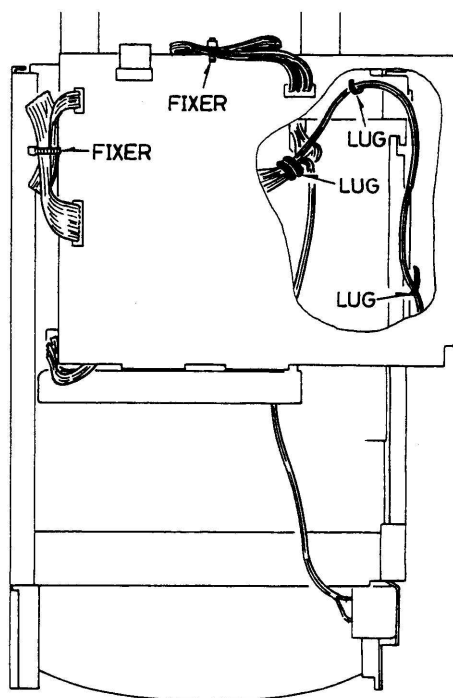
TYPE	1	2
CHASSIS (618) MARK	B	C
UP/DOWN MOTOR ASSY (624)		
(PART No.)	(614 268 2890)	(614 287 0440)

CD MECHANISM ADJUSTMENTS

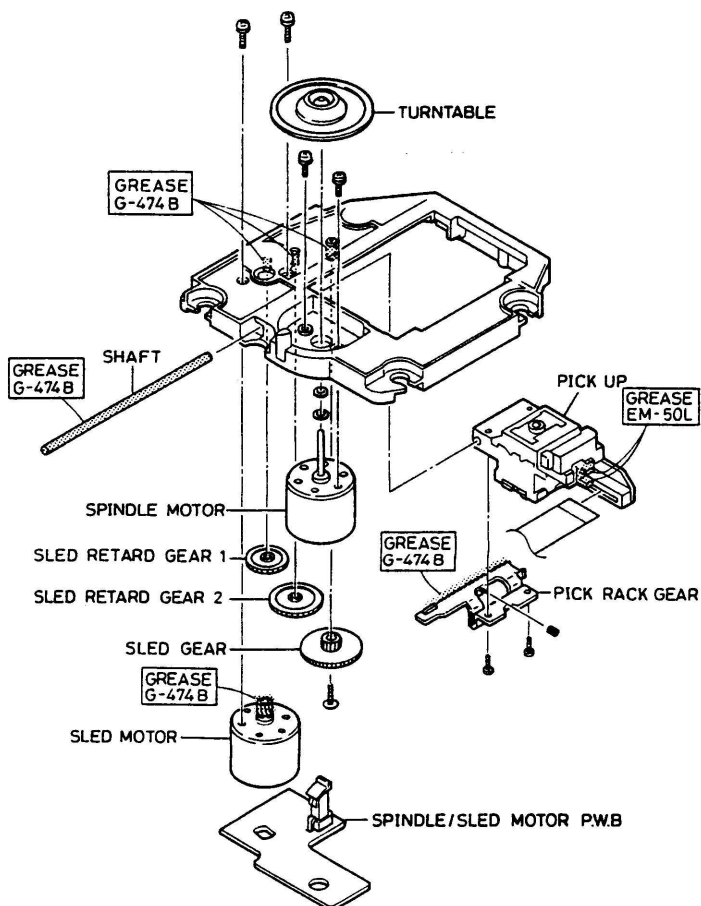
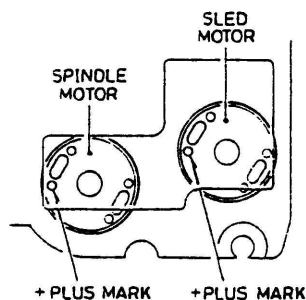
a. REPLACEMENT AND LUBRICATION OF THE CD MECHANISM

Note :

EM-50L	MOLYKOTE, EM-50L
SG-7	SAN GREASE, SG-7
G-474B	FLOIL OIL, G-474B



b. CD BASE MECHANISM

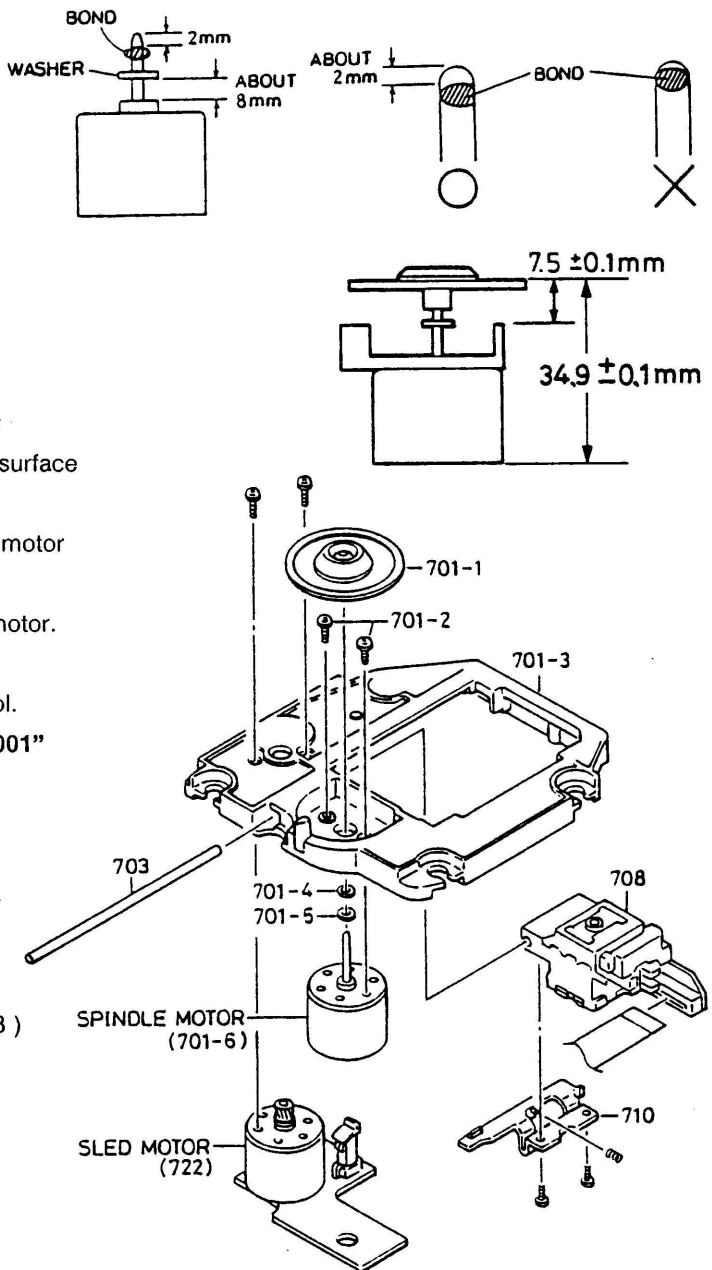


CD MECHANISM ADJUSTMENTS


c. CD MECHANISM

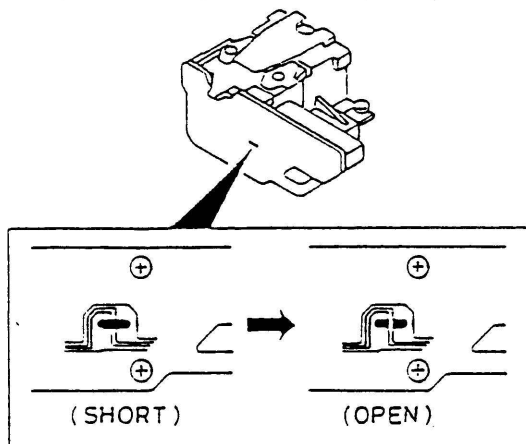
(a) Replacement of the spindle motor

- First, prepare the new turntable (701-1) and new special washer (701-4,701-5) for replacement.
The removed turntable will be deformed by the heat of the soldering iron, and cannot be reused.
 - Prepare dial-type calipers.
- The attached bonding material can be dissolved by using a 60W soldering iron to heat the shaft at the upper part of the turntable for about one minute.
 - The turntable can then be removed from the shaft by very carefully applying force upward at the center of the lower surface of the turntable.
 - Remove the two screws (701-2) and remove the spindle motor (701-6).
 - Attach the special washer (701-4, 701-5) to the spindle motor.
 - Clean the spindle motor's shaft.
To clean them, use a soft cloth soaked in isopropyl alcohol.
 - Apply a small amount of a mixture of the "Three Bond 2001" and "2015F" bonding materials to the motor's shaft.
 - Install the turntable as shown in the figure.
 - Secure the turntable by pressing gently.
Be sure to wipe away (by using a piece of cloth, or similar material) any bonding material coming out of the hole.

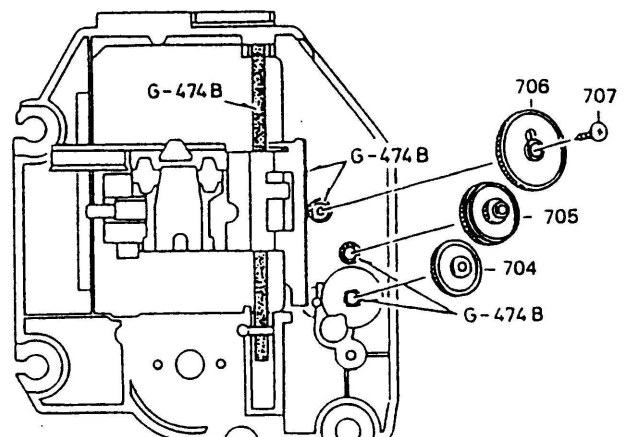


(b) Replacing the pick-up

- Insert the pick-up rail (703) into the base chassis. (701-3)
- If the latch of the base chassis (701-3) are missing when the pick-up rails have been installed, first wipe the tips of the rail with alcohol.
- After the pick-up has been replaced, apply grease (FLOIL G-474B) to the  sections.
- The pick-up P.W.Board pattern is "shorted", as shown in the figure, so that the new pick-up will not be susceptible to the effects of static.
- Set the pattern to "open" after the pick-up has been replaced.



(BE SURE AT THIS TIME,
NOT TO TOUCH ANY OTHER PART.)



CD PLAYER ADJUSTMENTS

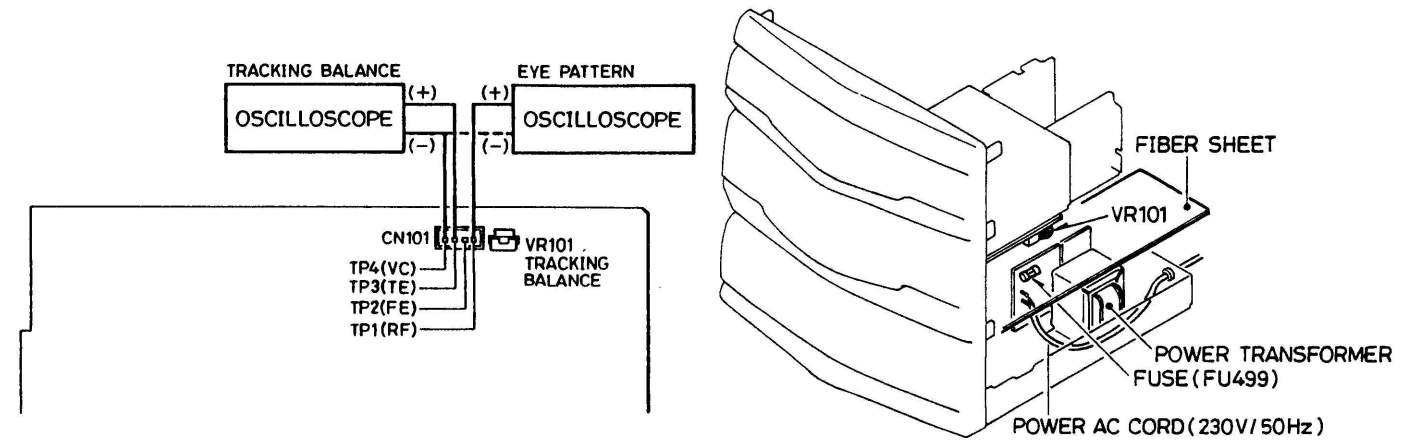
a. PREPARATIONS

- (a) Measuring instruments, tools and filter
- (1) Test disc. : YEDS 18 (SONY) or etc.
 - (2) Oscilloscope : SS5711 (10 MHz or dual-phenomenon)
or Memoryscope : DSS6521 (Storagescope)
 - (3) Screwdrivers (non-metallic) for adjustments

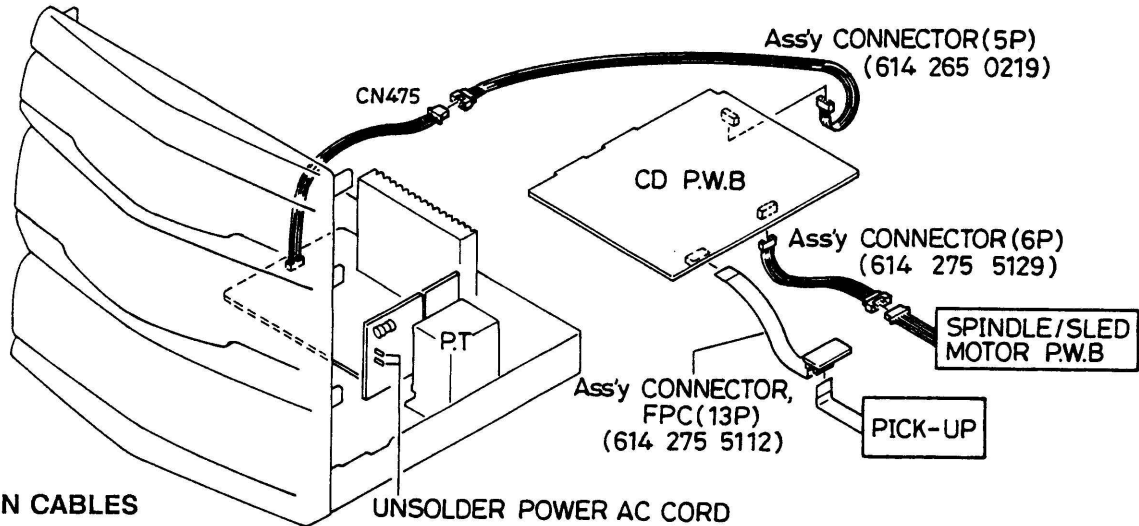
PRECAUTIONS WHEN PERFORMING CD UNIT ADJUSTMENTS

- Take care not to touch the fuse or the part where the AC power cord is connected.
- As shown in the figure, first use the fiber sheet and other insulating sheets to ensure that the live parts will not be touched, and then proceed with the adjustments.

b. PARTS LOCATION



c. TEST CABLES CONNECTION



EXTENSION CABLES

No.	PART No.	DESCRIPTION
1	614 275 5112	ASSY, CONNECTOR, 13P, FPC
2	614 275 5129	ASSY, CONNECTOR, 6P
3	614 265 0219	ASSY, CONNECTOR, 5P

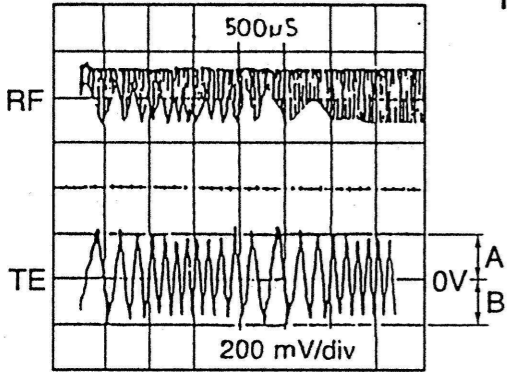
CD PLAYER ADJUSTMENTS

d. ADJUSTMENTS

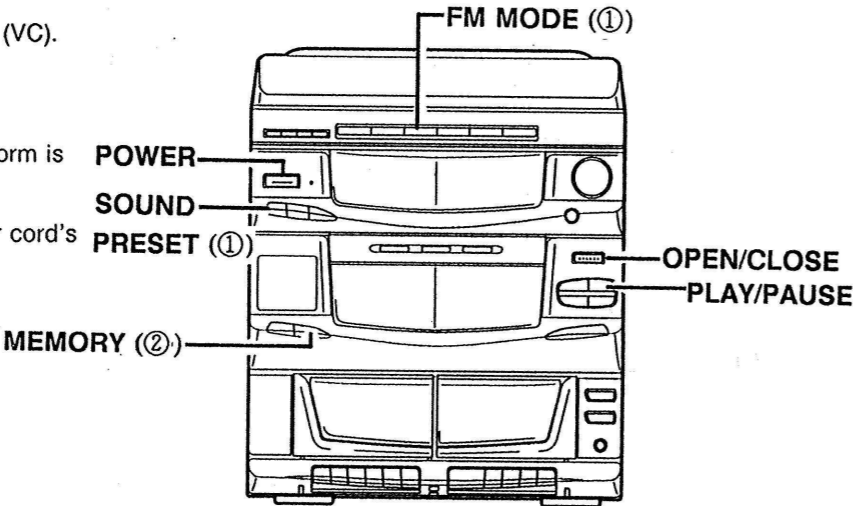
Adjustment Item	Measuring instrument	Input connection	Output connection	Adjustment location	Adjustment value
(a) Tracking balance	Oscilloscope	—	TP 3 : TE TP 4 : VC	VR101	Waveform symmetry A = B
(b) Checking the "eye" pattern	Oscilloscope	—	TP 1 : RF TP 4 : VC	—	Check be sure that the "eye" pattern is at the center of the waveform and that the diamond shape is clearly defined

(a) Tracking balance adjustment

- Within one second after pressing **FM MODE** & **SOUND PRESET** switches at the same time, press the **MEMORY** switch. (①,②)
(Service mode : **TRACKING BALANCE**)
- Connect an oscilloscope to TP3 (TE) and TP4 (VC).
- Set the test disc. (DISC 1)
- PLAY / PAUSE switch push "ON".
- Adjust **VR101** so that the oscilloscope's waveform is symmetrical, as shown in the illustration.
- To cancel service mode, disconnect the power cord's plug from the electrical outlet.

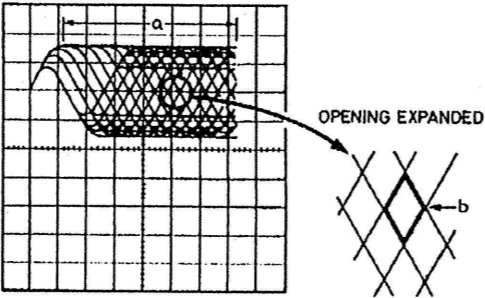
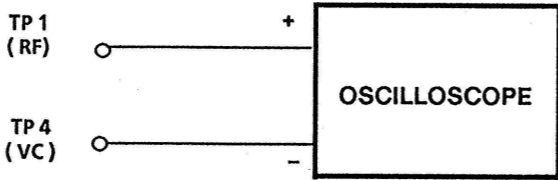


A = B

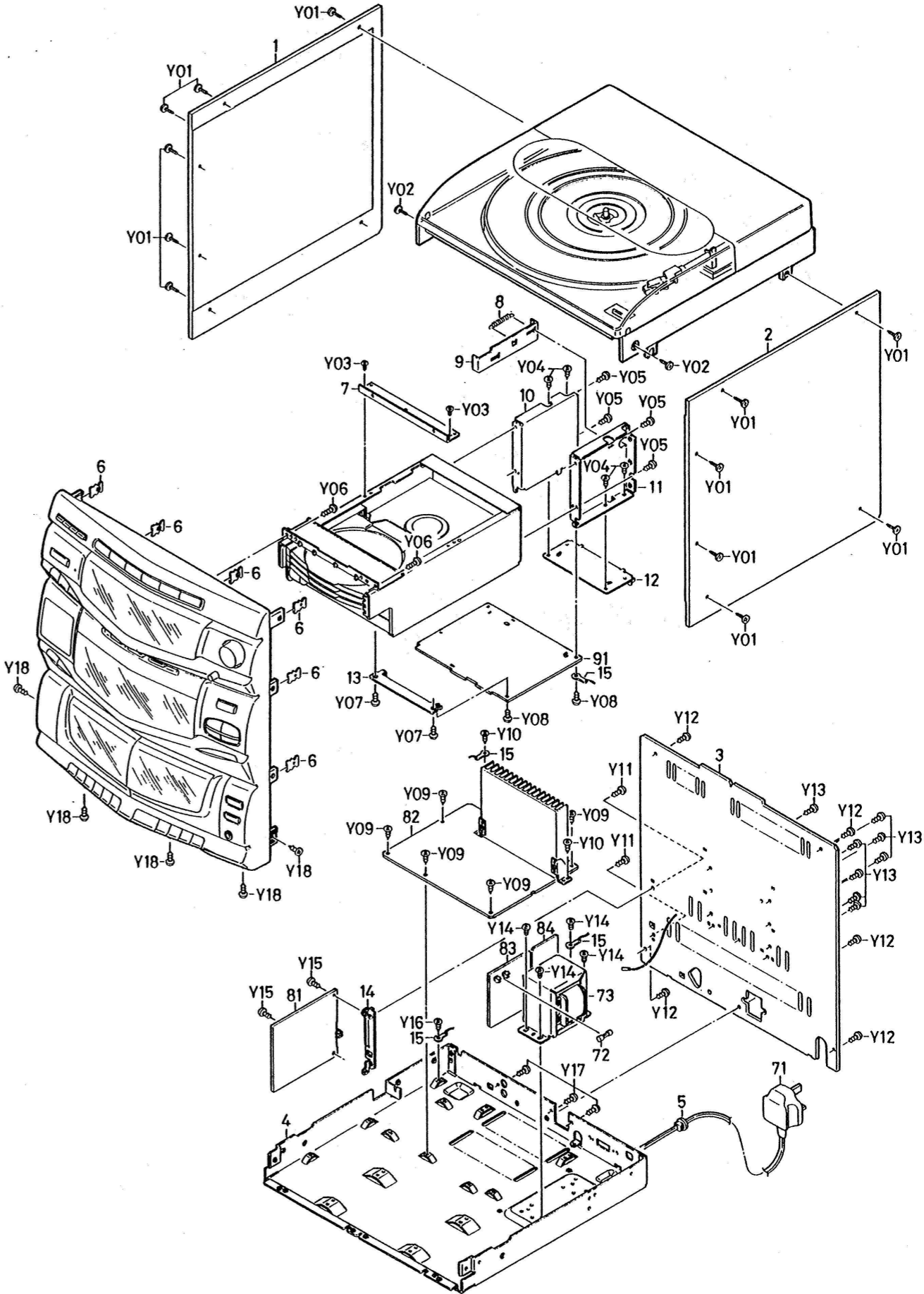


(b) Checking the "eye" pattern

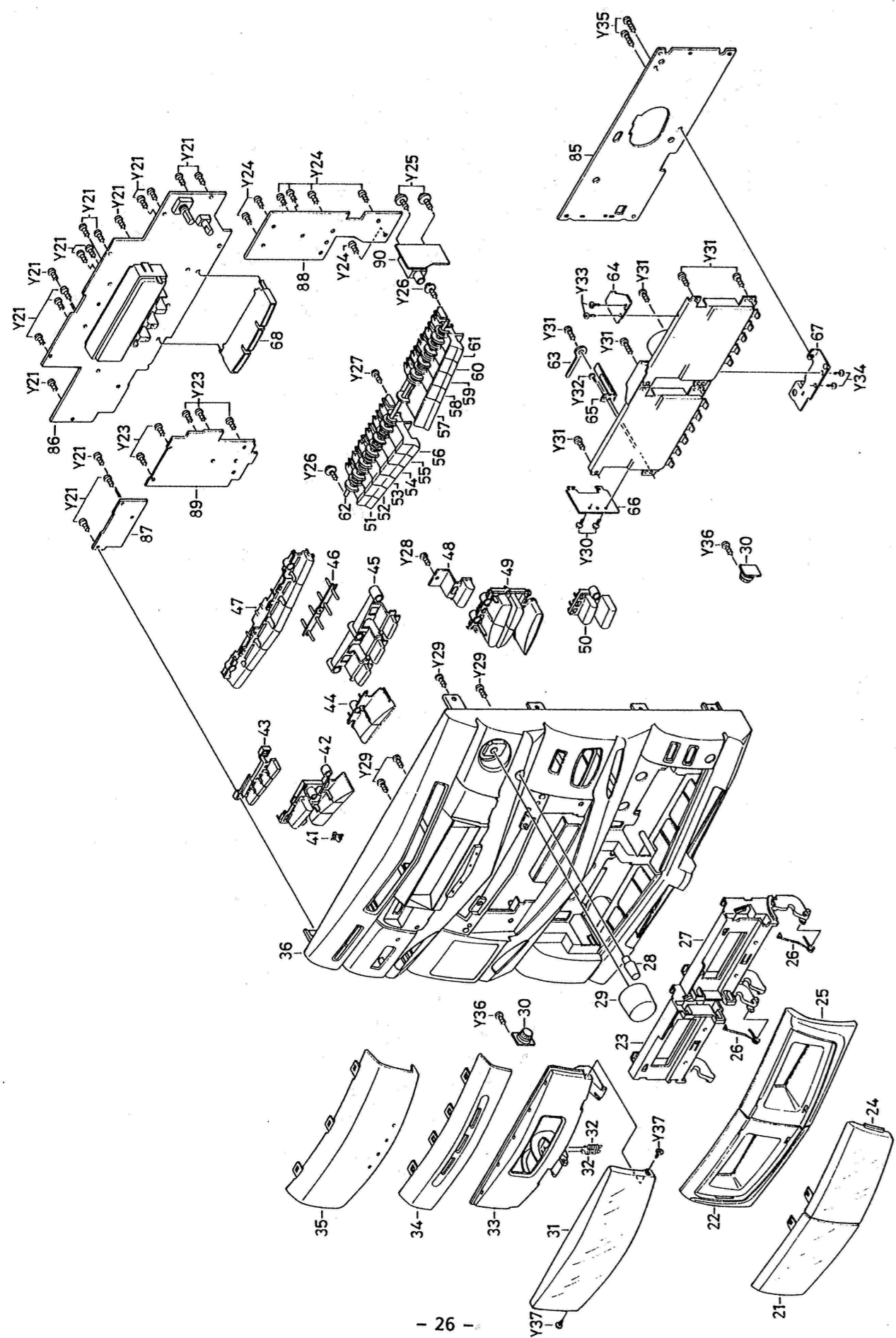
- Switch "ON" the POWER.
- Connect an oscilloscope to TP1 (RF) and TP4 (VC).
- Load the test disc.
- PLAY switch push ON.
- Check to be sure that the " eye " pattern is at the center of waveform and that the diamond shape is clearly defined.
- Press the STOP button.
- Switch "OFF" the POWER.



EXPLODED VIEW (CABINET & CHASSIS)



EXPLODED VIEW (CABINET & CHASSIS)



PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol Δ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified Δ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CAUTION: Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.
Regular type resistors are less than 1/4W carbon type and 0 ohm chip resistors.
Regular type capacitors are less than 50V and less than 1000 μ F type of Ceramic type and Electrical type.
N.S.P : Not available as service parts.

PACKING & ACCESSORIES

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
	614 279 2995	CARTON CASE, SET	31	614 279 2322	DEC, WINDOW, CD
	614 279 3015	CUSHION, TOP	32	614 284 8050	SPRING, TENS, CD LID OPEN
	614 279 3008	CUSHION, BOTTOM	33	614 279 2599	LID, CD
	614 279 3039	INSTRUCTION MANUAL	34	614 281 8770	DEC, ESCUTCHEON, CD WINDOW
	645 008 5581	POLY SHEET-1650X550MM	35	614 279 2339	DEC, WINDOW, CD TUNER
	614 245 8587	NOTICE, AC POWER CORD	36	614 279 2094	ASSY, PANEL, FRONT
	614 189 3778	CAUTION LABEL, CAUTION (SIDE PANEL)	41	614 283 5654	DEC, LED
	614 224 3480	LABEL, PLAYER	42	614 279 2155	BUTTON, POWER/FUNCTION
	614 281 1078	LABEL, CAUTION, CAUTION, CARRING	43	614 279 2131	BUTTON, CLOCK
	645 020 7020	ASSY, ANTENA, LOOP, AM	44	614 279 2186	BUTTON, DISC CHECK
	645 017 5930	REMOCON, RB-X1050, REMOTE CONTEOL	45	614 279 2179	BUTTON, DISC
	614 285 3993	LID, BATTERY, REMOTE CONTROL	46	614 280 9761	DEC, LED, STANDBY
			47	614 279 2148	BUTTON, TUNER
			48	614 279 2193	BUTTON, OPEN/CLOSE
			49	614 279 2223	BUTTON, MEMORY REPEAT
			50	614 279 2230	BUTTON, DUBING SPEED
			51	614 279 2469	KNOB, LEVER, MECHA(L-REC)
			52	614 279 2476	KNOB, LEVER, MECHA(L-PLAY)
			53	614 279 2483	KNOB, LEVER, MECHA(L-REW)
			54	614 279 2490	KNOB, LEVER, MECHA(L-FF)
			55	614 279 2506	KNOB, LEVER, MECHA(L-STOP)
			56	614 279 2513	KNOB, LEVER, MECHA(L-PAUSE)
			57	614 279 2520	KNOB, LEVER, MECHA(R-PLAY)
			58	614 279 2537	KNOB, LEVER, MECHA(R-REW)
			59	614 279 2544	KNOB, LEVER, MECHA(R-FF)
			60	614 279 2575	KNOB, LEVER, MECHA(R-STOP)
			61	614 279 2582	KNOB, LEVER, MECHA(R-PAUSE)
			62	614 283 7658	SHAFT, C-CASSTTE LEVER
			63	614 208 0276	LUG, LEAD MTG.
			64	614 270 8385	HOLDER, DECK PWB FIX, UPPER
			65	614 270 8507	SPRING, PLATE, RECORD/PLAY
			66	614 270 8378	HOLDER, DECK PWB FIX, LEFT
			67	614 270 8392	HOLDER, DECK PCB FIX, LOWER
			68	614 281 8800	MOUNTING, LED, CD BUTTON
				614 208 0986	CUSHION, DECK MECHANISM LEAD 10X40MM

CABINET & CHASSIS

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	614 279 2728	PANEL, SIDE, LEFT		614 231 6832	LABEL, SAFETY, LASER CLASS 1
2	614 279 2735	PANEL, SIDE, RIGHT		614 283 2295	LABEL, CAUTION, SET TOP, PRESS THE OPEN/CLOSE BUTTON
3	614 279 2742	PANEL, REAR		614 286 4159	LABEL, CAUTION, SHIPPING SCREW CAUTION, IMPORTANT, BEFORE USE ---
4	614 279 2001	ASSY, CABINET, BOTTOM		614 286 4166	LABEL, CAUTION, SHIPPING SCREW CAUTION, BEFORE USE, FRONT
5	614 129 1901	FIXER, AC POWER CORD		614 286 4173	LABEL, SHIPPING SCREW GREEN ARROW
6	614 264 0197	MOUNTING, BRACKET-E, JOINT (FRONT-SIDE)		614 224 3688	LABEL, SAFETY, LASER LABEL
7	614 266 1918	JOINT, CD MECHANISM, TOP		412 055 5204	SPECIAL SCREW- 3X18.5MM, SHIPPING SCREW
8	614 286 5507	SPRING, TENS, SHIPPING		614 129 4971	FIXER, LEAD MTG.
9	614 286 2735	SLIDE, SHIPPING SLIDE			
10	614 284 3628	HOLDER MECHA, CD MECHA REAR (L)			
11	614 284 3635	HOLDER MECHA, CD MECHANISM REAR (R)			
12	614 284 3611	HOLDER MECHA, CD MECHANISM REAR, BOTTOM			
13	614 284 3680	HOLDER PWB, CD PWB			
14	614 283 2127	HOLDER TUNER, TUNER PWB			
15	614 129 9136	LUG, GROUND			
21	614 282 9219	DEC, WINDOW, DECK B			
22	614 281 8749	COVER, DECK B			
23	614 279 2612	LID, CASSETTE, DECK B			
24	614 282 9226	DEC, WINDOW, DECK A			
25	614 281 8756	COVER, DECK A			
26	614 284 8067	SPRING, WIRE, C-CASSETTE			
27	614 279 2629	LID, CASSETTE, DECK A			
28	614 279 2568	KNOB, ROTARY, BALANCE			
29	614 279 2551	KNOB, ROTARY, VOLUME			
30	614 270 8316	ASSY, GEAR			

PARTS LIST

FIXING PARTS

Ref. No.	Part No.	Description
Y01	614 270 0938	SPECIAL SCREW 3X9MM,SIDE PANEL(L/R)/PLAYER
Y02	614 270 0938	SPECIAL SCREW 3X9MM,SIDE PANEL(L/R)/PLAYER
Y03	411 028 2905	SCR S-TPG PAN 2X4MM, JOINT FIX,CD MECHANISM
Y04	411 021 6405	SCR S-TPG BIN 3X8MM, CD MECHANISM-HL MECHA
Y05	411 021 6405	SCR S-TPG BIN 3X8MM, CD MECHA-HL MECHA
Y06	411 021 3503	SCR S-TPG BIN 3X10MM, CD MECHA-FRONT.P
Y07	411 021 6405	SCR S-TPG BIN 3X8MM, CD BR-CD MECHA
Y08	411 027 3101	SCR S-TPG BIN 3X8MM, CD PWB-CD BARCKET
Y09	411 021 6405	SCR S-TPG BIN 3X8MM, BTM-AMP PWB
Y10	411 021 6405	SCR S-TPG BIN 3X8MM, BTM-H (HEAT SINK)
Y11	411 021 3503	SCR S-TPG BIN 3X10MM, TUNER-BR/REAR
Y12	411 021 3503	SCR S-TPG BIN 3X10MM, REAR/BTM/PLAYER
Y13	411 021 3503	SCR S-TPG BIN 3X10MM, REAR-MECHA(CD)
Y14	411 001 4209	SCR S-TPG BIN 4X8MM, POWER TRANSFORMER
Y15	411 021 6405	SCR S-TPG BIN 3X8MM, TUNER,BRACKET-PWB
Y16	411 021 6405	SCR S-TPG BIN 3X8MM, BOTTOM LUG
Y17	411 021 6405	SCR S-TPG BIN 3X8MM, REAR-ELCTRICAL PARTS
Y18	411 020 8905	SCR S-TPG BRZ+FLG 3X10MM, BTM-P,FRONT(SIDE BOTTOM)
Y21	411 021 3503	SCR S-TPG BIN 3X10MM, FRONT PWB-CLOCK/TIMER PWB
Y23	411 021 3503	SCR S-TPG BIN 3X10MM,L-PWB
Y24	411 021 3503	SCR S-TPG BIN 3X10MM,R-PWB
Y25	412 032 6408	SPECIAL SCREW, PHONES SOCKET PWB
Y26	412 032 6408	SPECIAL SCREW,SHAFT-LEVER
Y27	411 020 8905	SCR S-TPG BRZ+FLG 3X10MM, SHAFT-CENTER
Y28	411 021 3503	SCR S-TPG BIN 3X10MM, OPEN/CLOSE BUTTON
Y29	411 098 4700	SCR S-TPG BIN 2.3X8MM, DEC.W-PNAEL F
Y30	411 028 2905	SCR S-TPG PAN 2X4MM, DECK BRACKET-E
Y31	411 021 3503	SCR S-TPG BIN 3X10MM, C-MECHA
Y32	411 028 2905	SCR S-TPG PAN 2X4MM, R/P SPRING PLATE
Y33	411 028 2905	SCR S-TPG PAN 2X4MM, DECK BRACKET-E
Y34	411 028 2905	SCR S-TPG PAN 2X4MM, DECK BRACKET-E
Y35	411 021 6405	SCR S-TPG BIN 3X8MM,DECK PWB
Y36	412 032 6408	SPECIAL SCREW, C-CASSTTE DAMPER
Y37	411 021 1400	SCR S-TPG BIN 2.3X10MM, DEC.W-CD LID

ELECTRICAL PARTS

Ref. No.	Part No.	Description
71	△614 244 5815	POWER CORD,AC
or	△614 245 1472	POWER CORD,AC
or	△645 005 7120	CORD,POWER,AC
or	△645 008 9732	CORD,POWER,AC
72	△423 016 9902	FUSE 250V 0.8A (FU471)
73	△645 010 0871	TRANSFORMER,POWER (T4701)
	614 129 9099	LUG,MECHANISM-BOTTOM
CN267	645 020 6849	FLEXIBLE FLAT CABLE, FRONT-AMP
CN268	645 020 6825	FLEXIBLE FLAT CABLE,CD-FRONT
CN269	645 011 3093	FLEXIBLE FLAT CABLE,CD-FRONT
CN270	645 020 6832	FLEXIBLE FLAT CABLE
CN490	614 286 3091	CORD,3P CONNECTOR
E2101	614 274 2013	CORD,1P CONNECTOR,FM ANT

TUNER P.W.BOARD ASSY

Ref. No.	Part No.	Description
81	614 280 8931	ASSY,PWB,TUNER
C2152	403 082 0201	POLYPRO 470P J 100V
C2155	403 082 2205	POLYPRO 560P J 100V
C2457	403 106 1603	NP-ELECT 1U Q 50V
CN201	645 004 2683	PLUG,2P
CN202	645 011 9965	SOCKET,FPC 9P
CN203	614 221 8273	TERMINAL,1P
or	614 254 3597	TERMINAL,1P
CT251	645 004 2317	TRIMMER,30PF
or	645 017 2694	TRIMMER,30PF
CT252	614 007 6356	TRIMMER,10PF
or	645 017 2687	TRIMMER,10PF
D2100	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D2101	407 157 8109	DIODE SVC211-B
D2102	407 157 8109	DIODE SVC211-B
D2103	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D2151	407 091 5004	VARACTOR DI SVC321SPA-C-2
D2152	407 091 5004	VARACTOR DI SVC321SPA-C-2
D2451	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D2454	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D2455	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D2456	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D2461	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D2463	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041

PARTS LIST

Ref. No.	Part No.	Description
D2464	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
IC211	409 292 5807	IC TA8176SN
IC231	409 379 2705	IC LA1832ML
IC245	409 378 4205	IC LC72131MD
L2101	614 034 5988	VHF COIL
L2103	645 002 1534	INDUCTOR,8.2U K
L2151	614 255 5798	TRANS,RF
L2152	614 255 5781	TRANS,RF
L2153	614 255 5767	TRANS,OSC
L2154	614 255 5774	TRANS,OSC
L2301	645 004 0580	INDUCTOR,1M J
L2451	645 001 4581	INDUCTOR,100U K
LG201	614 051 9785	LUG
Q2101	405 016 0806	TR 2SC2839-E
Q2152	405 021 0600	TR 2SD1012-G-SPA
Q2153	405 021 0600	TR 2SD1012-G-SPA
Q2154	405 021 0600	TR 2SD1012-G-SPA
Q2155	405 021 0600	TR 2SD1012-G-SPA
Q2156	405 021 0600	TR 2SD1012-G-SPA
Q2157	405 026 9004	TR 2SK222-D
Q2305	405 000 0904	TR DTA114YS
or	405 036 3702	TR 2SA1564
Q2310	405 016 0806	TR 2SC2839-E
Q2451	405 000 0904	TR DTA114YS
or	405 036 3702	TR 2SA1564
Q2452	405 000 0904	TR DTA114YS
or	405 036 3702	TR 2SA1564
Q2453	405 000 0904	TR DTA114YS
or	405 036 3702	TR 2SA1564
X2301	645 010 0024	OSC,CERAMIC 456KHZ
or	614 246 0870	RESONATOR
X2451	614 229 2457	CRYSTAL,7.2MHZ
or	614 240 1118	RESONATOR,7.2MHZ
or	614 204 0317	CRYSTAL
XF211	614 252 1045	FILTER,LC,FM
XF221	614 231 0199	FILTER,FM
or	614 030 5074	I.F FILTER,FM
XF222	614 231 0199	FILTER,FM
or	614 030 5074	I.F FILTER,RED,FM
XF231	614 246 0849	FILTER,450KHZ
XF233	645 012 0138	DISCR,CERAMIC,10.75MHZ
or	645 012 0374	DISCR,CERAMIC,10.75MHZ
or	645 012 2804	DISCR,CERAMIC,10.75MHZ
or	645 012 2811	DISCR,CERAMIC,10.75MHZ

AMP. P.W.BOARD ASSY

Ref. No.	Part No.	Description
82	614 280 6753	ASSY,PWB,AMP.
C4526	403 067 7003	MT-COMPO 0.27U J 50V
C4534	403 067 5603	MT-COMPO 0.1U J 50V
C4535	403 067 5603	MT-COMPO 0.1U J 50V
C4626	403 067 7003	MT-COMPO 0.27U J 50V
C4634	403 067 5603	MT-COMPO 0.1U J 50V
C4635	403 067 5603	MT-COMPO 0.1U J 50V
C4735	403 186 7205	ELECT 4700U M 35V
CN471	645 012 2743	SOCKET,DIP 9P
or	614 249 3847	SOCKET,9P
CN472	614 035 4942	SOCKET,DIP 5P
or	614 237 9783	SOCKET,5P
CN473	645 012 5379	SOCKET,FPC 33P

Ref. No.	Part No.	Description
CN474	645 011 9965	SOCKET,FPC 9P
CN475	614 035 4942	SOCKET,DIP 5P
or	614 237 9783	SOCKET,5P
CN476	614 224 9864	SOCKET,VIDEO/PHONO
CN477	614 020 1246	SOCKET,5P
CN478	614 252 9126	TERMINAL
CN479	645 004 2911	PLUG,5P
CN480	614 020 1253	SOCKET,6P
CN481	614 281 3652	CORD,5P CONNECTOR
CN482	614 281 3669	CORD,5P CONNECTOR
CN483	614 281 3676	CORD,9P CONNECTOR
CN484	614 281 3683	CORD,6P CONNECTOR
CN485	614 285 7823	CORD,5P CONNECTOR
CN486	645 005 7373	PLUG,3P
D4707	407 012 4406	DIODE 1SS133
D4708	407 012 4406	DIODE 1SS133
D4709	407 099 5402	ZENER DIODE MTZJ6.2B
D4710	407 012 4406	DIODE 1SS133
D4711	407 012 4406	DIODE 1SS133
D4712	407 012 4406	DIODE 1SS133
D4713	407 012 4406	DIODE 1SS133
D4714	407 012 4406	DIODE 1SS133
D4715	407 099 7505	ZENER DIODE MTZJ18A
D4716	407 099 6805	ZENER DIODE MTZJ13B
D4717	407 099 5600	ZENER DIODE MTZJ6.8A
D4718	407 099 9905	ZENER DIODE MTZJ33B
D4719	407 012 4406	DIODE 1SS133
D4720	407 012 4406	DIODE 1SS133
D4721	407 012 4406	DIODE 1SS133
D4722	407 012 4406	DIODE 1SS133
D4723	△407 127 1505	DIODE RBV-602LF-A
D4724	△407 127 1505	DIODE RBV-602LF-A
D4727	407 127 3905	ZENER DIODE MTZJ5.6B
D4730	407 012 4406	DIODE 1SS133
D4731	407 012 4406	DIODE 1SS133
D4732	407 012 4406	DIODE 1SS133
HS401	614 264 0241	HEAT SINK,LARGE,IC477 MTG.
HS402	614 266 6500	HEAT SINK,SMALL,Q4711 MTG.
IC471	409 353 8709	IC BU4052BCF
IC472	409 133 8103	IC NJM4558M-S
IC474	409 133 8103	IC NJM4558M-S
IC475	409 344 3607	IC BH3854AFS
IC476	409 039 7101	IC NJM4556D
or	409 388 0501	IC NJM4556AD
IC477	△409 343 3608	IC LA4705NA
LG471	614 051 9785	LUG
PR477	△645 021 3441	PROTECTOR,2A 125V
or	△645 014 2550	PROTECTOR,2A 125V
Q4501	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 014 5209	TR 2SC2458-GR
or	405 014 5407	TR 2SC2458-Y
Q4502	405 021 0600	TR 2SD1012-G-SPA
Q4503	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 014 5209	TR 2SC2458-GR
or	405 014 5407	TR 2SC2458-Y
Q4504	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 014 5209	TR 2SC2458-GR
or	405 014 5407	TR 2SC2458-Y
Q4505	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 014 5209	TR 2SC2458-GR
or	405 014 5407	TR 2SC2458-Y

PARTS LIST

Ref. No.	Part No.	Description
Q4601	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 014 5209	TR 2SC2458-GR
or	405 014 5407	TR 2SC2458-Y
Q4602	405 021 0600	TR 2SD1012-G-SPA
Q4603	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 014 5209	TR 2SC2458-GR
or	405 014 5407	TR 2SC2458-Y
Q4604	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 014 5209	TR 2SC2458-GR
or	405 014 5407	TR 2SC2458-Y
Q4605	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 014 5209	TR 2SC2458-GR
or	405 014 5407	TR 2SC2458-Y
Q4701	405 031 4506	TR 2SA733-R
or	405 005 1906	TR 2SA733-K
or	405 001 7001	TR 2SA1015-GR
or	405 005 2002	TR 2SA733-P
or	405 005 2101	TR 2SA733-Q
Q4702	405 031 4506	TR 2SA733-R
or	405 005 1906	TR 2SA733-K
or	405 001 7001	TR 2SA1015-GR
or	405 005 2002	TR 2SA733-P
or	405 005 2101	TR 2SA733-Q
Q4703	△405 095 1602	TR 2SD2061-E
or	△405 095 1701	TR 2SD2061-F
Q4704	△405 095 1602	TR 2SD2061-E
or	△405 095 1701	TR 2SD2061-F
Q4705	△405 095 1602	TR 2SD2061-E
or	△405 095 1701	TR 2SD2061-F
Q4706	405 031 4506	TR 2SA733-R
or	405 005 1906	TR 2SA733-K
or	405 001 7001	TR 2SA1015-GR
or	405 005 2002	TR 2SA733-P
or	405 005 2101	TR 2SA733-Q
Q4707	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 014 5209	TR 2SC2458-GR
or	405 014 5407	TR 2SC2458-Y
Q4708	△405 095 1602	TR 2SD2061-E
or	△405 095 1701	TR 2SD2061-F
Q4709	405 023 5306	TR 2SD400-F-MP
Q4710	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 014 5209	TR 2SC2458-GR
or	405 014 5407	TR 2SC2458-Y
Q4711	△405 095 1602	TR 2SD2061-E
or	△405 095 1701	TR 2SD2061-F
Q4712	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 014 5209	TR 2SC2458-GR
or	405 014 5407	TR 2SC2458-Y
Q4713	405 000 3806	TR DTC114YS
or	405 128 9001	TR RN1207
or	405 037 0809	TR 2SC4048
Q4714	405 000 3806	TR DTC114YS
or	405 128 9001	TR RN1207
or	405 037 0809	TR 2SC4048
Q4715	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 014 5209	TR 2SC2458-GR
or	405 014 5407	TR 2SC2458-Y

Ref. No.	Part No.	Description
Q4765	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 014 5209	TR 2SC2458-GR
or	405 014 5407	TR 2SC2458-Y
R4544	△402 071 1304	FUSIBLE RES 2.2 JA 1/4W
R4545	△402 071 1304	FUSIBLE RES 2.2 JA 1/4W
R4644	△402 071 1304	FUSIBLE RES 2.2 JA 1/4W
R4645	△402 071 1304	FUSIBLE RES 2.2 JA 1/4W
R4735	△402 044 6008	RESISTOR 0.1 J- 1/2W
R4736	△402 044 6008	RESISTOR 0.1 J- 1/2W
R4737	△402 044 6008	RESISTOR 0.1 J- 1/2W
R4743	△402 048 1504	RESISTOR 1 J- 1W
S4701	645 006 9673	SWITCH,PUSH 1P-1T,RESET
S4702	614 244 8335	SWITCH,SLIDE,PHONO/VIDEO
SA401	614 264 0166	HOLDER,HEAT SINK, L
SA402	614 264 0807	HOLDER HEAT SINK, R
SA403	411 159 6100	SCR S-TPG BRZ+FLG 2.6X10MM, POWER IC
SA404	411 159 6100	SCR S-TPG BRZ+FLG 2.6X10MM, POWER IC
SA405	411 021 6405	SCR S-TPG BIN 3X8MM,POWERTR
SA406	411 021 6405	SCR S-TPG BIN 3X8MM,POWERTR
SA407	411 021 6405	SCR S-TPG BIN 3X8MM,POWERTR
SA408	411 021 6405	SCR S-TPG BIN 3X8MM,SINKL
SA409	411 021 6405	SCR S-TPG BIN 3X8MM,SINKR
SA410	411 021 6405	SCR S-TPG BIN 3X8MM,MOTORTTR
SA411	411 021 6405	SCR S-TPG BIN 3X8MM,SINK
SA412	411 021 6405	SCR S-TPG BIN 3X8MM,SINK

POWER TRANSFORMER,PRIMARY P.W.B. ASSY

Ref. No.	Part No.	Description
83	614 280 6760	ASSY,PWB,POWER TRANSFORMER,PRIMARY
CN493	645 006 4760	HOLDER,FUSE
CN494	645 006 4760	HOLDER,FUSE
CN495	614 017 8203	TERMINAL BOARD
CN496	614 017 8203	TERMINAL BOARD
L4930	△614 213 5761	INDUCTOR,FERITE

POWER TRANSFORMER,SECONDARY P.W.B. ASSY

Ref. No.	Part No.	Description
84	614 280 6777	ASSY,PWB,POWER TRANSFORMER,SECONDARY
CN499	645 004 2720	PLUG,6P
R4990	△402 071 9508	FUSIBLE RES 1 JA 1/4W

TAPE DECK P.W.BOARD ASSY

Ref. No.	Part No.	Description
85	614 281 3461	ASSY,PWB,TAPE DECK
C3303	403 058 9108	POLYESTER 0.018U J 50V
C3304	403 058 1102	POLYESTER 1500P K 50V
CN301	645 005 8141	PLUG,9P
CN302	645 005 9292	PLUG,5P
CN303	645 004 2911	PLUG,5P
CN304	645 004 2898	PLUG,3P
CN306	614 020 6562	SOCKET,4P
or	614 223 9223	SOCKET,4P
CN371	645 005 8110	PLUG,4P
CN372	645 006 0861	PLUG,7P
CN373	645 005 7373	PLUG,3P

PARTS LIST

Ref. No.	Part No.	Description
D3101	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D3102	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D3103	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D3104	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D3109	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D3110	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D3111	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D3112	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D3113	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D3114	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 153 6109	DIODE 1SS119-041
D3301	407 053 8807	ZENER DIODE MTZ9.1B
IC351	409 270 2101	IC HA12136AT
or	409 199 1209	IC HA12136A
IC370	409 121 8702	IC LA3246
IC371	409 207 1900	IC MLC4066B
or	409 003 9506	IC BU4066B
or	409 051 3501	IC TC4066BP
or	409 059 2605	IC UPD4066BC
IC374	409 214 1900	IC CXA1298AP
L3300	614 212 0804	TRANS,OSC(85KHZ)
L3501	614 252 4305	FILTER,LC,MPX(85KHZ)
L3551	614 252 4305	FILTER,LC,MPX(85KHZ)
L3700	645 004 0580	INDUCTOR,1M J
L3750	614 029 3142	MX COIL,TRAP(85KHZ)
or	614 029 3937	MX COIL,TRAP(85KHZ)
L3800	645 004 0580	INDUCTOR,1M J
L3850	614 029 3142	MX COIL,TRAP(85KHZ)
or	614 029 3937	MX COIL,TRAP(85KHZ)
Q3101	405 000 6104	TR DTC144ES
or	405 078 3005	TR BA1L4M
or	405 018 2501	TR 2SC3399
Q3102	405 011 8609	TR 2SC1740S-S
or	405 015 6205	TR 2SC2785-E
or	405 015 6403	TR 2SC2785-F
or	405 014 5209	TR 2SC2458-GR
or	405 011 8500	TR 2SC1740S-R

Ref. No.	Part No.	Description
Q3103	405 004 4601	TR 2SA608-F-SPA
or	405 003 5401	TR 2SA1317-U
or	405 006 1905	TR 2SA933S-S
or	405 006 1806	TR 2SA933S-R
or	405 002 1305	TR 2SA1048-Y
or	405 002 1107	TR 2SA1048-GR
Q3104	405 000 6104	TR DTC144ES
or	405 078 3005	TR BA1L4M
or	405 018 2501	TR 2SC3399
Q3106	405 011 8609	TR 2SC1740S-S
or	405 015 6205	TR 2SC2785-E
or	405 015 6403	TR 2SC2785-F
or	405 014 5209	TR 2SC2458-GR
or	405 011 8500	TR 2SC1740S-R
Q3107	405 004 4601	TR 2SA608-F-SPA
or	405 003 5401	TR 2SA1317-U
or	405 006 1905	TR 2SA933S-S
or	405 006 1806	TR 2SA933S-R
or	405 002 1305	TR 2SA1048-Y
or	405 002 1107	TR 2SA1048-GR
Q3108	405 004 4601	TR 2SA608-F-SPA
or	405 003 5401	TR 2SA1317-U
or	405 006 1905	TR 2SA933S-S
or	405 006 1806	TR 2SA933S-R
or	405 002 1305	TR 2SA1048-Y
or	405 002 1107	TR 2SA1048-GR
Q3300	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
or	405 012 2002	TR 2SC1815-GR
Q3301	405 011 1907	TR 2SC1627-Y
Q3302	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
or	405 012 2002	TR 2SC1815-GR
Q3303	405 011 8609	TR 2SC1740S-S
or	405 015 6205	TR 2SC2785-E
or	405 015 6403	TR 2SC2785-F
or	405 014 5209	TR 2SC2458-GR
or	405 011 8500	TR 2SC1740S-R
Q3304	405 011 8609	TR 2SC1740S-S
or	405 015 6205	TR 2SC2785-E
or	405 015 6403	TR 2SC2785-F
or	405 014 5209	TR 2SC2458-GR
or	405 011 8500	TR 2SC1740S-R
Q3831	405 011 8609	TR 2SC1740S-S
or	405 015 6205	TR 2SC2785-E
or	405 015 6403	TR 2SC2785-F
or	405 014 5209	TR 2SC2458-GR
or	405 011 8500	TR 2SC1740S-R
R3901	△402 004 5607	FUSIBLE RES 22 J- 1/4W
S3010	614 248 9642	SWITCH,SLIDE,R/P
VR301	645 006 2599	VR,SEMI,20K N
VR302	645 006 2599	VR,SEMI,20K N
VR303	645 006 2599	VR,SEMI,20K N
VR304	645 006 2599	VR,SEMI,20K N
VR305	645 006 2575	VR,SEMI,10K N
VR306	645 006 2575	VR,SEMI,10K N
VR307	645 006 2605	VR,SEMI,200K
VR308	645 006 2605	VR,SEMI,200K
VR309	645 006 2582	VR,SEMI,2K N

PARTS LIST

FRONT P.W.BOARD ASSY

Ref. No.	Part No.	Description
86	614 280 6715	ASSY,PWB FRONT
BR261	614 279 2414	HOLDER,FL
C2643	403 262 8607	DL-ELECT 0.047F Z 5.5V
CN261	645 012 5669	SOCKET,FPC 33P
CN262	645 019 0391	SOCKET,FPC 12P
CN263	645 019 0384	SOCKET,FPC 8P
CN264	614 035 4911	SOCKET,DIP 2P
CN265	614 035 4911	SOCKET,DIP 2P
CN266	614 235 8856	CONNECTOR-P
CN271	645 005 8226	PLUG,3P
D2601	407 099 4603	ZENER DIODE MTZJ3.9B
D2605	407 012 4406	DIODE 1SS133
D2606	408 017 5801	LED SLZ-981C-15-AB-T2
D2611	407 138 4700	PHOTO DIODE SPS-420-1
D2651	407 012 4406	DIODE 1SS133
D2701	408 018 2700	LED SLZ-381B-22-AB-T2
D2702	408 018 2700	LED SLZ-381B-22-AB-T2
D2703	408 018 2700	LED SLZ-381B-22-AB-T2
D2704	408 018 2700	LED SLZ-381B-22-AB-T2
D2705	408 018 2700	LED SLZ-381B-22-AB-T2
D2706	408 018 2700	LED SLZ-381B-22-AB-T2
D2707	408 018 2700	LED SLZ-381B-22-AB-T2
D2708	408 018 2700	LED SLZ-381B-22-AB-T2
D2709	408 018 2700	LED SLZ-381B-22-AB-T2
D2710	408 017 5801	LED SLZ-981C-15-AB-T2
D2711	408 017 5801	LED SLZ-981C-15-AB-T2
D2712	408 017 5801	LED SLZ-981C-15-AB-T2
D2713	408 017 5801	LED SLZ-981C-15-AB-T2
D2714	407 012 4406	DIODE 1SS133
D2715	407 012 4406	DIODE 1SS133
D4401	407 012 4406	DIODE 1SS133
D4402	407 012 4406	DIODE 1SS133
D4403	407 012 4406	DIODE 1SS133
D4404	407 012 4406	DIODE 1SS133
FL261	645 017 1123	FLUORESCENT TUBE
IC261	410 267 0208	IC M38174M8-283FP
IC271	409 159 9306	IC M50253P
IC291	409 285 8709	IC MC14066BD
IC441	409 133 8103	IC NJM4558M-S
IC442	409 133 8103	IC NJM4558M-S
L2601	645 003 5814	INDUCTOR,100U J
L2901	645 001 4581	INDUCTOR,100U K
Q2601	405 007 6701	TR 2SB598-F-NP
or	405 006 4005	TR 2SA952-L
or	405 006 3909	TR 2SA952-K
Q2602	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
or	405 012 2002	TR 2SC1815-GR
Q2603	405 007 6701	TR 2SB598-F-NP
or	405 006 4005	TR 2SA952-L
or	405 006 3909	TR 2SA952-K
Q2604	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
or	405 012 2002	TR 2SC1815-GR
Q2605	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
or	405 012 2002	TR 2SC1815-GR
Q2606	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
or	405 012 2002	TR 2SC1815-GR
Q2615	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
or	405 012 2002	TR 2SC1815-GR

Ref. No.	Part No.	Description
S2801	645 006 5958	SWITCH,PUSH 1P-1T,PRESET (+)
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2802	645 006 5958	SWITCH,PUSH 1P-1T,PRESET (-)
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2803	645 006 5958	SWITCH,PUSH 1P-1T,BAND
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2804	645 006 5958	SWITCH,PUSH 1P-1T,FM MODE
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2805	645 006 5958	SWITCH,PUSH 1P-1T,TUNING (+)
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2806	645 006 5958	SWITCH,PUSH 1P-1T,TUNING (-)
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2808	645 006 5958	SWITCH,PUSH 1P-1T,POWER
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2809	645 006 5958	SWITCH,PUSH 1P-1T,SOUND
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2810	645 006 5958	SWITCH,PUSH 1P-1T,FUNCTION
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2811	645 006 5958	SWITCH,PUSH 1P-1T, BASSXPANDER
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2821	645 006 5958	SWITCH,PUSH 1P-1T,DISC 1
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2822	645 006 5958	SWITCH,PUSH 1P-1T,DISC 2
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2823	645 006 5958	SWITCH,PUSH 1P-1T,DISC 3
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2881	645 017 2991	SWITCH,ROTARY(ENCODER) VOLUME
VR280	614 249 9238	VR,ROTARY,100K OHM B,BALANCE
X2600	645 013 7532	OSC,CERAMIC 4.19MHZ
X2601	614 252 7627	RESONATOR,XTAL,32.768KHZ

CLOCK/TIMER P.W.BOARD ASSY

Ref. No.	Part No.	Description
87	614 280 6722	ASSY,PWB,CLOCK/TIMER
CN283	614 035 4911	SOCKET,DIP 2P
S2831	645 006 5958	SWITCH,PUSH 1P-1T,SET/CLEAR
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2832	645 006 5958	SWITCH,PUSH 1P-1T,ADJUST
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2833	645 006 5958	SWITCH,PUSH 1P-1T,TIMER
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2834	645 006 5958	SWITCH,PUSH 1P-1T,CLOCK
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT

PARTS LIST

CD OPERATION P.W.BOARD ASSY

Ref. No.	Part No.	Description
88	614 280 8948	ASSY,PWB,CD OPERATION
CN284	614 035 4911	SOCKET,DIP 2P
S2841	645 006 5958	SWITCH,PUSH 1P-1T,OPEN/CLOSE
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2842	645 006 5958	SWITCH,PUSH 1P-1T,STOP
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2843	645 006 5958	SWITCH,PUSH 1P-1T,PLAY/PAUSE
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2844	645 006 5958	SWITCH,PUSH 1P-1T, SKIP/SEARCH (+)
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2845	645 006 5958	SWITCH,PUSH 1P-1T, SKIP/SEARCH (-)
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2846	645 006 5958	SWITCH,PUSH 1P-1T,SPEED
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2847	645 006 5958	SWITCH,PUSH 1P-1T,DOLBY
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2848	645 006 5958	SWITCH,PUSH 1P-1T,DISC CHECK
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT

REPEAT/MEMORY SWITCH P.W.BOARD ASSY

Ref. No.	Part No.	Description
89	614 280 8955	ASSY,PWB,REPEAT/MEMORY
CN286	614 235 9129	CONNECTOR-S,6P
S2852	645 006 5958	SWITCH,PUSH 1P-1T,MEMORY
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S2853	645 006 5958	SWITCH,PUSH 1P-1T,REPEAT
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT

PHONES SOCKET P.W.BOARD ASSY

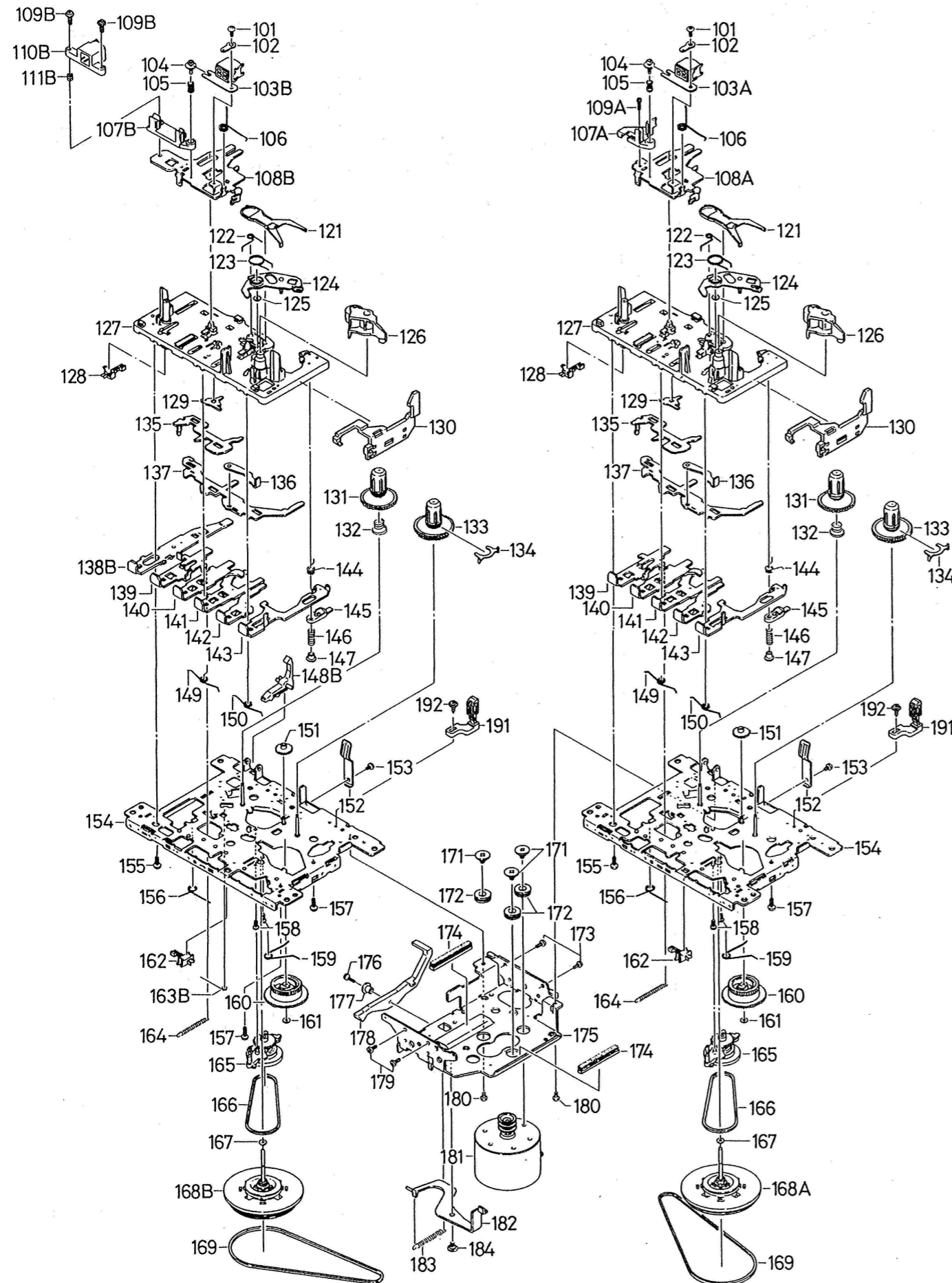
Ref. No.	Part No.	Description
90	614 281 2952	ASSY,PWB,PHONES SOCKET
CN491	614 020 6579	SOCKET,5P
or	614 223 9230	SOCKET,5P
CN492	645 006 1141	JACK,PHONE D6.43,PHONES
CN493	614 285 7830	CORD,5P CONNECTOR
L4591	614 212 3171	INDUCTOR,FERITE
or	645 006 9864	INDUCTOR,80U
L4691	614 212 3171	INDUCTOR,FERITE
or	645 006 9864	INDUCTOR,80U

CD MAIN P.W.BOARD ASSY

Ref. No.	Part No.	Description
91	614 284 8258	ASSY,PWB,CD
CN101	645 006 0915	PLUG,4P, TP1-4
or	645 009 6440	PLUG,4P, TP1-4
CN111	645 010 1472	SOCKET,FPC 13P,CD_PICKUP

Ref. No.	Part No.	Description
CN113	645 005 8127	PLUG,6P
CN114	645 012 2736	SOCKET,DIP 8P
CN115	614 035 4935	SOCKET,DIP 4P
CN124	614 286 4074	ASSY,WIRE,CD-CDMECHA
CN125	614 286 4081	ASSY,WIRE,CD-CDMECHA
CN131	645 012 5096	SOCKET,FPC 12P,FRONT
CN132	645 012 4976	SOCKET,FPC 8P,FRONT
CN198	645 005 9292	PLUG,5P
D1351	407 099 5402	ZENER DIODE MTZJ6.2B
D1361	407 099 5105	ZENER DIODE MTZJ4.7B
D1371	407 099 4504	ZENER DIODE MTZJ3.9A
D1601	△407 004 9709	DIODE DSK10C
D1602	△407 004 9709	DIODE DSK10C
D1603	△407 004 9709	DIODE DSK10C
D1604	△407 004 9709	DIODE DSK10C
IC101	409 327 3402	IC CXA1782BQ
IC102	△409 317 8509	IC BA6398FP
IC104	409 322 2707	IC CXD2518Q
IC106	409 039 7408	IC NJM4558D
or	409 018 4305	IC LA6458D
IC131	△409 127 1400	IC LB1648
IC132	△409 114 4803	IC LB1641
L1401	645 001 4550	INDUCTOR,10U K
PR161	△645 020 7235	PROTECTOR,630MA 125V
PR162	△645 020 7235	PROTECTOR,630MA 125V
PR199	△645 014 2499	PROTECTOR,0.4A 125V
Q1101	405 004 4601	TR 2SA608-F-SPA
or	405 003 5401	TR 2SA1317-U
or	405 006 1905	TR 2SA933S-S
or	405 006 1806	TR 2SA933S-R
or	405 002 1305	TR 2SA1048-Y
or	405 002 1107	TR 2SA1048-GR
Q1102	405 004 4601	TR 2SA608-F-SPA
or	405 003 5401	TR 2SA1317-U
or	405 006 1905	TR 2SA933S-S
or	405 006 1806	TR 2SA933S-R
or	405 002 1305	TR 2SA1048-Y
or	405 002 1107	TR 2SA1048-GR
Q1201	405 009 5207	TR 2SB927-S
or	405 001 9302	TR 2SA1020-Y
Q1202	405 008 6809	TR 2SB808-F-SPA
Q1211	405 000 3806	TR DTC114YS
or	405 128 9001	TR RN1207
or	405 037 0809	TR 2SC4048
Q1321	405 019 3903	TR 2SC536-G-SPA
or	405 017 9709	TR 2SC3330-U
or	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 014 5209	TR 2SC2458-GR
or	405 014 5407	TR 2SC2458-Y
Q1351	405 000 0508	TR DTA114ES
or	405 078 2305	TR BN1A4M
or	405 001 1108	TR RN2202
Q1361	405 000 0508	TR DTA114ES
or	405 078 2305	TR BN1A4M
or	405 001 1108	TR RN2202
Q1371	405 000 0508	TR DTA114ES
or	405 078 2305	TR BN1A4M
or	405 001 1108	TR RN2202
R1350	△402 048 1603	RESISTOR 10 J- 1W
R1371	△402 048 1603	RESISTOR 10 J- 1W
VR101	645 010 7597	VR,SEMI,47K N
X1401	614 254 6932	RESONATOR,CERAMIC,33.868MHZ
or	614 259 2137	RESONATOR,CERAMIC,33.86MHZ

EXPLODED VIEW (TAPE MECHANISM)

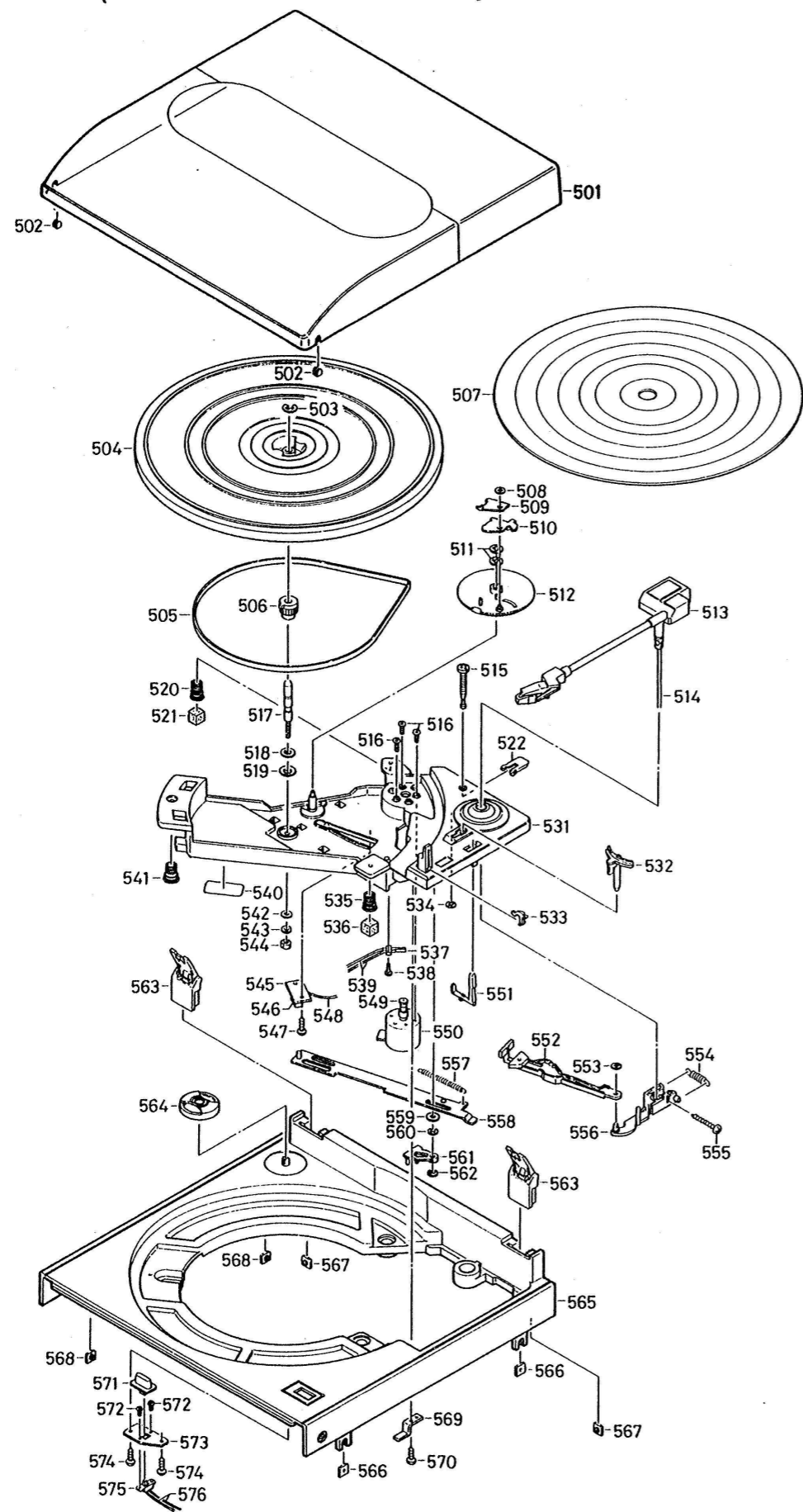


PARTS LIST

TAPE MECHANISM (TM - X1050TN-SH))

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
101	412 031 6607	SPECIAL SCREW, (+)BIND SCREW 2X3MM	154	614 067 2770	CHASSIS ASSY
102	614 208 0276	LUG,TAPE HEAD	155	412 026 2201	SPECIAL SCREW, C TAPPING SCREW 2X5MM
103A	614 208 4052	HEAD,R/P,PLAY (A:TAPE"A")	156	614 152 1282	SPRING WIRE,PAUSE LEVER
103B	614 208 4052	HEAD,RECORD/PLAY, (B:TAPE"B")	157	412 026 2201	SPECIAL SCREW, P TAPPING BING SCREW 2X5MM
104	412 026 1709	SPECIAL SCREW, HEAD AZIMUTH SCREW 2X7MM	158	412 026 2300	SPECIAL SCREW, CAMERA TAPPING 2X4.5MM
105	614 151 7162	SPRING COIL,HEAD AZIMUTH	159	614 152 1275	SPRING WIRE,EJECT ACTUATOR
106	614 210 3432	SPRING WIRE,HEAD PANEL	160	614 134 9053	GEAR,CAM GEAR
107A	614 146 5111	BRACKET TAPE GUIDE, TAPE GUIDE	161	412 013 5000	SPECIAL WASHER, P WASHER CUT 1.2X3.8X0.3MM
107B	614 196 0470	BRACKET HEAD,HEAD PANEL	162	645 011 4731	SWITCH,PLAY
108A	614 211 6944	SLIDE,HEAD PANEL	163B	614 152 1305	SPRING WIRE,RECORD BUTTON
108B	614 210 6822	SLIDE,HEAD PANEL	164	614 151 4703	SPRING COIL,PLAY BUTTON
109A	412 026 1501	SPECIAL SCREW,(+),2X6MM	165	614 069 2273	PULLEY ASSY,REW/F.FWD
109B	412 036 8200	SPECIAL SCREW, (+ -) CUP SCREW 2X7.5MM	166	614 195 5087	SQUARE BELT,RF BELT
110B	614 021 8831	MAGNETIC HEAD,ERASING	167	412 013 8902	SPECIAL WASHER, PW 2X3.5X0.3MM
111B	614 151 5090	SPRING COIL,ERASING HEAD	168A	614 204 8672	FLYWHEEL ASSY
121	614 140 1614	LEVER,SENSING	168B	614 068 1871	FLYWHEEL DISK ASSY
122	614 152 1299	SPRING WIRE,CONTROLLER	169	614 234 1377	BELT,SQUARE,MAIN
123	614 151 8312	SPRING PLATE,GEAR PLATE	171	412 026 1907	SPECIAL SCREW,MOTOR
124	614 070 0916	LEVER ASSY,GEAR PLATE ASSY	172	614 126 6831	CUSHION,MOTOR RUBBER
125	412 026 1808	SPECIAL WASHER, PW CUT 1.45X3.8X0.5MM	173	412 026 2003	SPECIAL SCREW, C TAPPING SCREW 2X4MM
126	614 237 2371	ASSY,PINCHROLLER	174	614 126 6848	CUSHION,ANTI-VIBRATION, FELT MAT
127	614 067 3258	SUB CHASSIS ASSY	175	614 122 9553	BRACKET MOTOR
128	645 011 5080	SWITCH,MOTOR POWER	176	412 031 7901	SPECIAL SCREW, C TAPPING SCREW 2X6MM
129	614 129 0676	BOSS,RECORD/PLAY STOPPER	177	614 129 0683	BOSS,COLLAR(B)
130	614 205 5410	SLIDE,EJECT	178	614 140 1676	LEVER,PLAY KICK LEVER-B
131	614 211 3868	REEL ASSY,SUPPLY	179	412 026 2003	SPECIAL SCREW, C TAPPING SCREW 2X4MM
132	614 208 0351	SPRING,COMP,BACK TENSION	180	412 026 2003	SPECIAL SCREW, C TAPPING SCREW 2X4MM
133	614 211 3875	REEL ASSY,TAKE UP	181	614 250 0309	ASSY,MOTOR WITH PULLEY
134	614 195 5094	LEVER,SENSOR	182	614 139 8679	LEVER,PLAY KICK LEVER-A
135	614 201 1744	SLIDE,SWITCH ACTUATOR	183	614 151 4758	SPRING COIL, PACK KICK LEVER
136	614 140 1539	LEVER,EJECT KICK	184	412 005 8101	SPECIAL SCREW, PACK KICK LEVER COLLAR
137	614 139 1120	SLIDE,PUSH BUTTON ACTUATOR	191	645 011 4724	SWITCH,LEAF,TAPE SELECT
138B	614 196 0500	LEVER,RECORD BUTTON	192	412 023 0903	SPECIAL SCREW, TAPPING SCREW 2X5MM
139	614 196 0555	LEVER,PLAY BUTTON		614 261 5218	ASSY,WIRE,4P,PLAY HEAD
140	614 196 0517	LEVER,REW BUTTON		614 261 5232	ASSY,WIRE,7P, RECORD/PLAY,ERASE HEAD
141	614 196 0524	LEVER,F.FWD BUTTON		614 261 5263	ASSY,WIRE,5P, TAPE MECHANISM
142	614 196 0531	LEVER,STOP/EJECT BUTTON		614 261 5270	ASSY,WIRE,3P, TAPE SELECT SWITCH,CRO2
143	614 208 0313	LEVER,PAUSE BUTTON			
144	614 152 1244	SPRING WIRE,PAUSE CONTROL			
145	614 208 0320	LEVER,PAUSE			
146	614 151 7186	SPRING COIL,PAUSE LEVER			
147	614 129 0669	BOSS,PAUSE STOPPER			
148B	614 140 1508	LEVER,UN-RECORDING SENSOR			
149	614 152 1251	SPRING WIRE,BUTTON LEVER			
150	614 152 1268	SPRING WIRE,BUTTON LEVER			
151	614 134 9046	GEAR,F.FWD			
152	614 151 8299	SPRING PLATE, CASSETTE HOLDER			
153	412 026 2003	SPECIAL SCREW, C TAPPING SCREW 2X4MM			

EXPLODED VIEW (TURNTABLE MECHANISM)

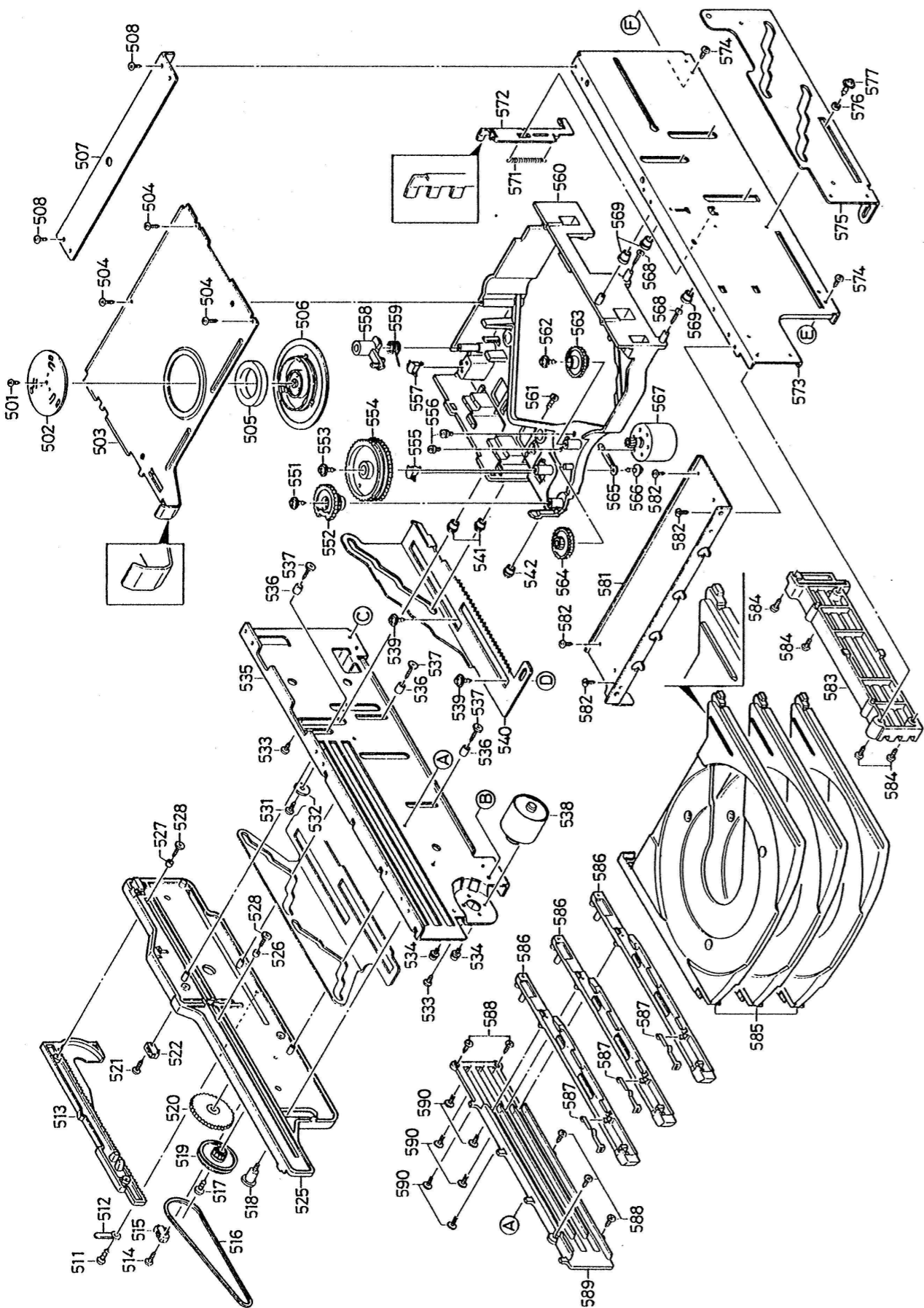


PARTS LIST

TURNTABLE MECHANISM (PL - DL670)

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
501	645 007 0662	DUST COVER	541	645 007 0587	SPRING,FLOATING
502	645 007 0594	CUSHION,DUST COVER	542	645 007 0495	WASHER,SPINDLE FIX
503	645 007 0471	6MM E RING,TURN TABLE	543	645 007 0907	WASHER,SPINDLE FIX
		RETAINER	544	645 007 0532	NUT,SPINDLE FIX
504	645 007 0686	TURNTABLE,PLATTER	545	645 007 0549	P.C.BOARD,TURNTABLE
505	645 007 0402	BELT,TURN TABLE	546	645 007 0419	CONNECTOR
506	645 007 0693	GEAR,TURN TABLE	547	645 007 0372	SCREW
507	645 007 0600	RUBBER MAT,TURN TABLE	548	645 007 0884	WIRE
508	645 007 0297	3MM CS RING,	549	645 007 0457	PULLEY MOTOR
		CLUTCH PLATE RETAINER	550	645 007 0525	MOTOR
509	645 007 0358	CLUTCH PLATE UPPER,	551	645 007 0815	LEVER,CUEING
		TRIP PAWL	552	645 007 0778	SLIDE,PLATE RETURN,
510	645 007 0310	CLUTCH PLATE COVER,			TRIP LEVER
511	645 007 0303	TRIP CLUTCH PLATE	553	645 007 0297	3MM CS RING
		4MM CS RING,	554	645 007 0655	SPRING,ARM LEVER SPRING
512	645 007 0341	CAM GEAR RETAINER	555	645 007 0747	SCREW,AUTO RETURN ADJUSTMENT
513	645 008 7158	SPUR GEAR,CAM GEAR	556	645 007 0617	LINK RETURN,ARM LEVER
A	614 225 9115	TONE ARM ASSY	557	645 007 0334	SPRING,CAM SLIDE PULL SPRING
B	614 001 7779	CARTRIDGE	558	645 007 0396	LEVER RETURN,CAM SLIDE
		NEEDLE CARTRIDGE,STYLUS,	559	645 007 0501	WASHER
		ST-707J	560	645 007 0464	3 MM,E RING
514	645 007 0280	TIE,TONE ARM	561	645 007 0556	SHUT OFF PLATE SWITCH
515	645 007 0754	SCREW,5MM, SHIPPING	562	645 007 0464	3MM E RING,
516	645 007 0761	SCREW,MOTOR FIX			SHUT OFF PLATE RETAINER
517	645 007 0716	SPINDLE,SPINDLE SHAFT	563	645 007 0860	HING PLASTIC,HING
518	645 007 0914	WASHER,TURN TABLE THRUST	564	645 007 0792	ADAPTER,45 ADAPTER
519	645 007 0709	OIL CUP	565	645 007 0440	WELL
520	645 007 0563	SPRING,FLOATING	566	645 008 8902	FIX PLATE
521	645 007 0679	SPONGE,FLOATING	567	645 008 8902	FIX PLATE
522	645 007 0853	CLIP,USE FOR SHIPPING	568	645 008 8902	FIX PLATE
531	645 007 0433	CHASSIS	569	645 007 0389	IRON PLATE,
532	645 007 0365	TONE ARM ELEVATOR			FLOATING UPPER STOPPER
533	645 007 0822	ARM CLIP	570	645 007 0372	SCREW,PART FIX
534	645 007 0297	3MM CS RING	571	645 007 0785	BUTTER,SPEED SWITCH NOB
535	645 007 0570	SPRING,FLOATING	572	645 007 0723	SCREW,SPEED SWITCH FIX
536	645 007 0679	SPONGE,FLOATING	573	645 007 0808	SPEED BRACKET,SWITCH BRACKET
537	645 007 0846	SWITCH,AUTO SHUT-OFF SWITCH	574	645 007 0372	SCREW
538	645 007 0730	SCREW,SWITCH FIX	575	645 007 0839	SLIDE SWITCH,SPEED SELECT
539	645 007 0877	WIRE	576	645 007 0891	WIRE
540	645 007 0518	LABEL		645 007 0488	EVA

EXPLODED VIEW (CD CHANGER MECHANISM)

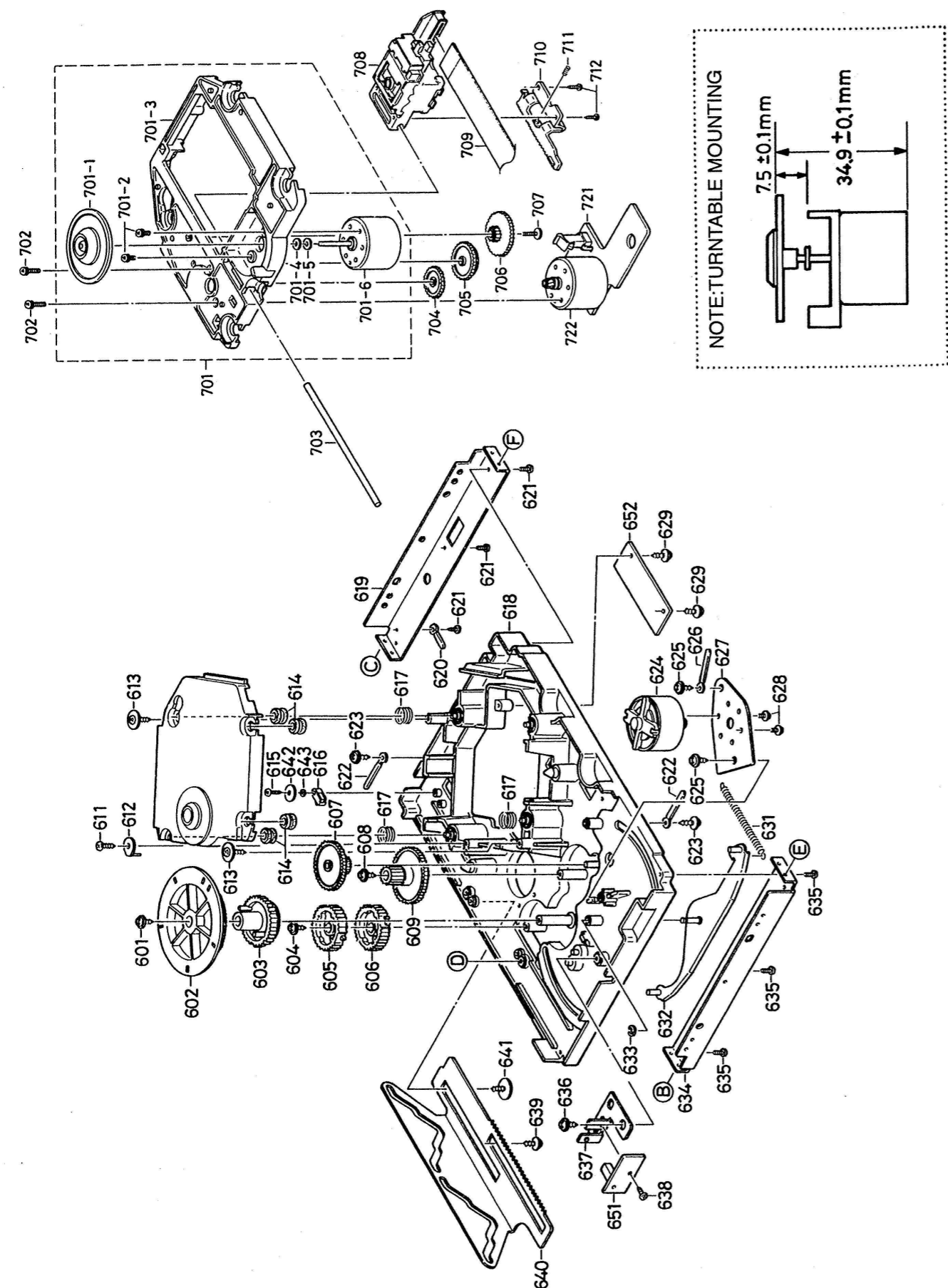


PARTS LIST

CD CHANGER MECHANISM (PM-CD96CHN11/SH)

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
501	411 022 7500	SCR S-TPG PAN 2X4MM, CHUCK PULLEY FIX	561	411 022 8408	SCR S-TPG PAN 2X8MM, TRAY HOLDER
502	614 266 8061	HOLDER,CHUCK PLATE PULLEY	562	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, GEAR FIX
503	614 286 3329	HOLDER,CHUCK BRACKET	563	614 266 8030	GEAR,LOAD/UNLOAD IDLER1
504	411 022 7807	SCR S-TPG PAN 2X6MM, CHUCK BRACKET FIX	564	614 266 1796	GEAR,LOAD/UNLOAD IDLER2
505	645 009 9809	MAGNET CHUCK,CHUCKING	565	614 129 9136	LUG,LEAD MTG.
506	614 272 1674	ASSY,PULLEY,CHUCK	566	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, LUG FIX
507	614 266 1918	JOINT,B-TOP ENCOURAGER	567	645 009 1193	ASSY,MOTOR,LOAD/UNLOAD
508	411 028 2905	SCR S-TPG PAN 2X4MM, JOINT FIX	568	411 022 8408	SCR S-TPG PAN 2X8MM, TRAY HOLDER
511	411 021 0809	SCR S-TPG BIN 2X6MM,LUG FIX	569	614 268 0469	PIPE,TRAY HOLDER GUIDE
512	614 129 9341	LUG,OPEN/CLOSE SWITCH LOAD	571	614 268 0162	SPRING,TENSION,STOPPER PULL
513	614 266 1833	GEAR,OPEN/CLOSE RACK	572	614 279 0595	STOPPER,DISC STOPPER
514	411 021 1202	SCR S-TPG BIN 2X8MM, OPEN/CLOSE SW FIX	573	614 266 1956	MOUNTING,RIGHT SIDE BRACKET
515	645 010 6491	SWITCH,LEVER,OPEN END	574	411 028 2905	SCR S-TPG PAN 2X4MM, MOUNTING FIX
516	614 277 6896	BELT,SQUARE,OPEN/CLOSE	575	614 268 2906	ASSY,SLIDE,RIGHT
517	411 021 2704	SCR S-TPG BIN 2.6X6MM, PULLEY FIX	576	614 270 2239	PIPE,RIGHT SLIDE GUIDE
518	412 004 5705	SPECIAL SCREW,GEAR BLOCK FIX	577	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, RIGHT SLIDE FIX
519	614 277 7312	PULLEY,OPEN/CLOSE IDLER PULLEY	581	614 266 1901	JOINT,F-TOP ENCOURAGER
520	614 266 1826	GEAR,OPEN/CLOSE IDLER	582	411 028 2905	SCR S-TPG PAN 2X4MM, JOINT FIX
521	411 021 1202	SCR S-TPG BIN 2X8MM, OPEN/CLOSE SW FIX	583	614 286 3343	HOLDER,RIGHT,TRAY GUIDE
522	645 010 6491	SWITCH,LEVER,CLOSE END	584	411 028 3100	SCR S-TPG PAN 2X6MM, HOLDER FIX
525	614 266 1970	MOUNTING,GEAR BLOCK BRACKET	585	614 286 3312	ASSY,TRAY
526	614 273 5992	PIPE,GEAR RACK GUIDE(F)	586	614 286 3541	ASSY,HOLDER
527	614 270 2222	PIPE,GEAR RACK GUIDE(R)	587	614 266 8924	SPRING,PLATE,TRAY HOLD
528	412 054 6202	SPECIAL SCREW,2X7.5MM, GEAR RACK FIX	588	411 028 2905	SCR S-TPG PAN 2X4MM, HOLDER FIX
531	411 022 7807	SCR S-TPG PAN 2X6MM, TRAY HOLDER	589	614 286 3336	HOLDER,LEFT,TRAY GUIDE
532	411 091 9702	WASHER V 2X8X0.5MM	590	412 055 5303	SPECIAL SCREW 2X5MM, HOLDER FIX
533	411 028 2905	SCR S-TPG PAN 2X4MM, MOUNTING FIX	601	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, GEAR FIX
534	411 044 7007	SCR PAN+SW 2X3MM, OPEN/CLOSE MOTOR FIX	602	614 266 1758	GEAR,UP/DOWN CAM (1)
535	614 266 1949	MOUNTING,LEFT SIDE BRACKET	603	614 266 1765	GEAR,UP/DOWN CAM (2)
536	614 268 0476	PIPE,OPEN/CLOSE BRACKET GUIDE	604	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, GEAR FIX
537	412 054 6202	SPECIAL SCREW,2X7.5MM, MOUNTING FIX	605	614 266 1772	GEAR,UP/DOWN DRIVE (1)
538	645 009 1186	ASSY,MOTOR,OPEN/CLOSE	606	614 266 1789	GEAR,UP/DOWN DRIVE (2)
539	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM,SLIDE FIX	607	614 266 1734	GEAR,UP/DOWN IDLER 1
540	614 266 1994	SLIDE,TRAY HOLDER	608	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, GEAR FIX
541	614 277 9460	PIPE,TRAY HOLDER GUIDE	609	614 266 1741	GEAR,UP/DOWN IDLER 2
542	614 268 0469	PIPE,TRAY HOLDER GUIDE (R)	611	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM,HOLDER FIX
551	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, GEAR FIX	612	614 267 6998	HOLDER,BASE MECHANISM FIX
552	614 266 1819	GEAR,LOAD/UNLOAD DRIVE	613	614 279 1202	SPECIAL SCREW,BLACK, BASE MECHANISM FIX
553	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, GEAR FIX	614	614 237 7031	CUSHION,RUBBER,FLOATING
554	614 266 1802	GEAR,LOAD/UNLOAD CAM	or	614 277 1952	CUSHION,RUBBER,FLOATING
555	645 012 5904	SWITCH,UNLOAD END	615	411 021 1202	SCR S-TPG BIN 2X8MM, PLAY SW FIX
556	411 044 7205	SCR PAN+SW 2X4MM, LOAD/UNLOAD MTR FIX	616	645 010 6491	SWITCH,LEVER,PLAY
557	645 012 5904	SWITCH,LOAD END	617	614 247 4907	SPRING,COMP,FLOATING
558	614 266 1932	LEVER,LOCK	618	614 266 1727	CHASSIS,BOTTOM CHASSIS
559	614 268 0186	SPRING,WIRE, LOAD/UN-LOAD LOCK LEVER	619	614 266 1888	JOINT,BOTTOM BACK
560	614 266 1963	MOUNTING,TRAY HOLDER	620	614 129 9341	LUG,OPEN/CLOSE SWITCH LEAD

EXPLODED VIEW (CD CHANGER & BASE MECHANISM)



PARTS LIST

Ref. No.	Part No.	Description
621	411 022 7807	SCR S-TPG PAN 2X6MM, JOINT FIX
622	614 129 9136	LUG,LOAD/UN-LOAD SWITCH LEAD
623	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, LUG FIX
624	614 268 2890	ASSY,MOTOR,UP/DOWN CHASSIS MARK "B" (A PAIR USE)
624	614 287 0440	ASSY,MOTOR,UP/DOWN CHASSIS MARK "C" (A PAIR USE)
625	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, BRACKET MOTOR FIX
626	614 129 9136	LUG,SENSOR LEAD
627	614 266 8054	HOLDER,BRACKET MOTOR
628	411 102 6300	SCR PAN-FLG 2.6X2.8MM, UP/DOWN MOTOR FIX
629	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM,CHUKEI PWB FIX
631	614 268 0155	SPRING,TENSION, SYNCRO LEVER PULL
632	614 268 2883	ASSY,LEVER,SYNCRO
633	412 014 6402	SPECIAL WASHER, LEVER ASSY FIX
634	614 272 6600	JOINT,BOTTOM FRONT
635	411 022 7807	SCR S-TPG PAN 2X6MM, JOINT FIX
636	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, SENSOR BK FIX
637	614 266 9907	HOLDER,SENSOR BRACKET
638	411 028 2905	SCR S-TPG PAN 2X4MM, SENSOR PWB FIX
639	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM, SLIDE FIX
640	614 266 2007	SLIDE,TRAY SLISE
641	412 005 2307	SPECIAL SCREW,3X10MM (WITH WASHER 3X14X1MM)
642	614 126 8774	WASHER,FIBER 2X10X1MM
643	412 012 7104	PLASY SWITCH
	614 269 6026	SPECIAL WASHER,GF NYLON 2.1X4X0.5MM
	614 269 6026	ASSY,WIRE,5P,SENSOR, UP/DOWN MOTOR
	614 269 6033	ASSY,WIRE,6P, LOAD/UNLOAD/PLAY SWITCH
	614 269 6040	ASSY,WIRE,4P, LOAD/UNLOAD,UP/DOWN MOTOR
	614 269 6057	ASSY,WIRE,4P, OPEN/CLOSE SWITCH

CD SENSOR P.W.BOARD ASSY

Ref. No.	Part No.	Description
651	614 270 1928	ASSY,PWB,SENSOR
D191	407 177 6109	PHOTO COUPLE GP1A53E

CD CONNECTOR P.W.BOARD ASSY

Ref. No.	Part No.	Description
652	614 267 6646	ASSY,PWB CD,CONNECTOR, CHANGER
CN191	645 006 0915	PLUG,4P,LOAD/UNLOAD SWITCH
or	645 009 6440	PLUG,4P,LOAD/UNLOAD SWITCH
CN192	645 004 2706	PLUG,4P,LOAD/UNLOAD,UP/DOWN MOTOR
or	645 014 9825	PLUG,4P,LOAD/UNLOAD,UP/DOWN MOTOR
CN193	645 006 0939	PLUG,6P,OPEN/CLOSE/PLAY SWITCH
or	645 009 6464	PLUG,6P,OPEN/CLOSE/PLAY SWITCH
CN194	645 006 0922	PLUG,5P,SENSOR,UP/DOWN MOTOR
or	645 009 6457	PLUG,5P,SENSOR,UP/DOWN MOTOR
CN195	645 006 0915	PLUG,4P,CD,PWB
or	645 009 6440	PLUG,4P,CD,PWB
CN196	645 006 0953	PLUG,8P,CD,PWB
or	645 009 6488	PLUG,8P,CD,PWB

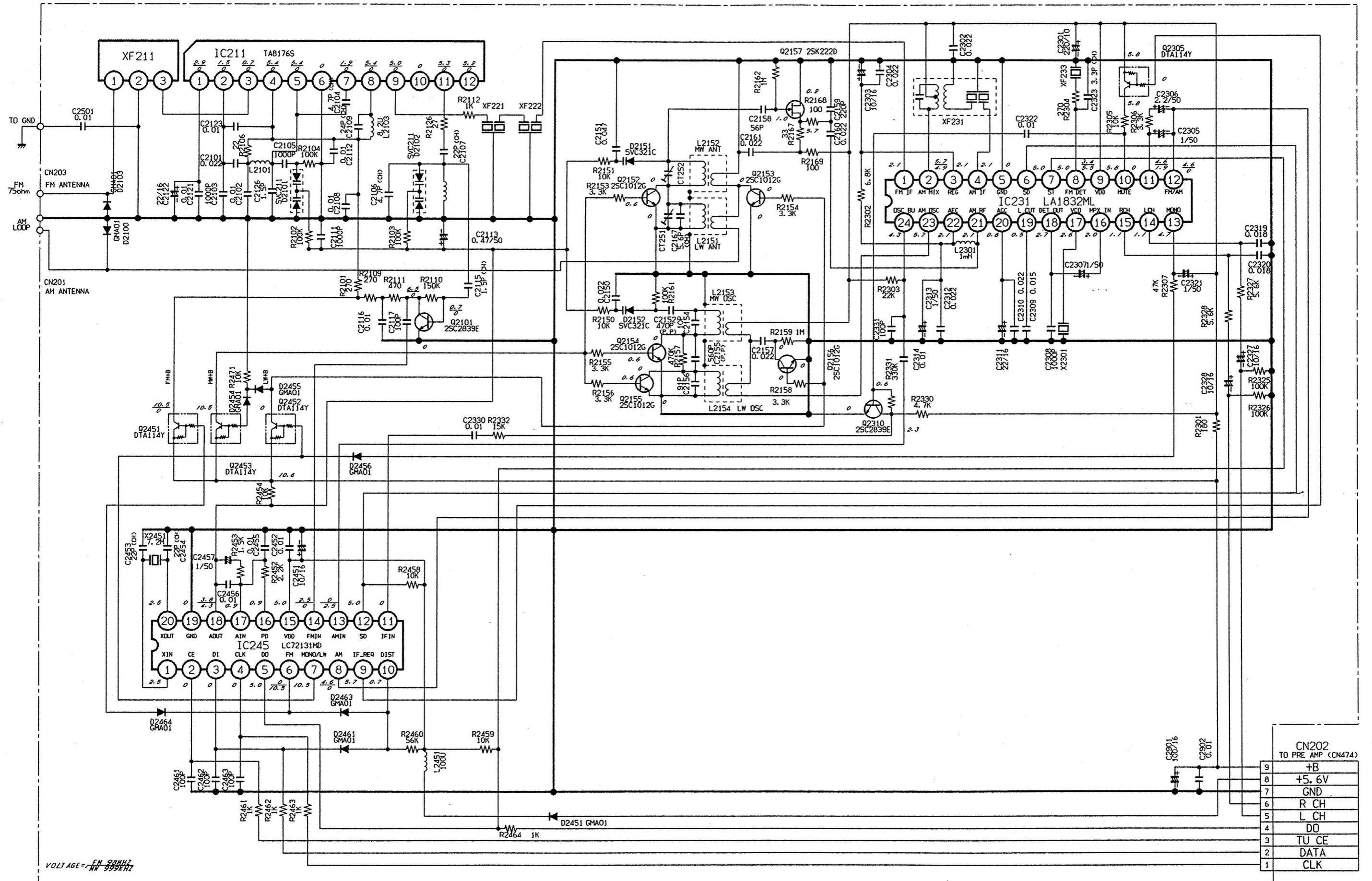
CD BASE MECHANISM (PM-CDBM94D2SH)

Ref. No.	Part No.	Description
701	614 270 2031	ASSY,CHASSIS,BASE MECHANISM
701-1	614 268 3354	ASSY,TURNTABLE,SPINDLE
701-2	411 044 7502	SCR PAN+SW 2X5MM, SPINDLE MOTOR FIX
701-3	614 262 2582	CHASSIS,BASE MECHANISM
701-4	412 032 0208	SPECIAL WASHER,1.9X5X0.3MM
701-5	412 014 5603	SPECIAL WASHER,TURNTABLE STOPPER
701-6	645 007 7821	MOTOR,CD-SPINDLE DC 0.2W, SPINDLE MOTOR
702	411 044 8004	SCR PAN+SW 2X8MM, SLED MOTOR FIX
703	614 237 7024	SHAFT,PICK-UP RAIL
or	614 277 8029	SHAFT,PICK-UP RAIL
704	614 237 7093	GEAR,SLED RETARD GEAR 1
705	614 237 7109	GEAR,SLED RETARD GEAR 2
706	614 237 7116	GEAR,SLED
707	412 047 3904	SPECIAL SCREW 2X8MM, SLED GEAR FIX
708	645 006 7983	PICKUP,LASER,SF-P100
709	645 009 9960	FLEXIBLE FLAT CABLE,13P, PICK-UP
710	614 262 2599	GEAR,RACK PICK-UP RACK GEAR
711	614 238 6934	SPRING,COMP,PICK-UP RACK GEAR
712	411 152 4301	SCR S-TPG PAN PCS 1.7X6MM, PICK RACK GEAR FIX
722	645 007 7814	ASSY,MOTOR CD-SLED
	614 287 2796	ASSY,CONNECTOR-S,6P, BASE MECHANISM

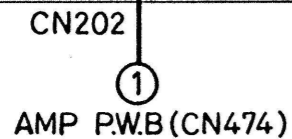
BASE MECHANISM P.W.BOARD ASSY

Ref. No.	Part No.	Description
721	614 254 0664	ASSY,PWB,MOTOR & LIMIT SWITCH
CN001	645 006 0939	PLUG,6P
S001	645 012 5836	SWITCH,LEAF,LIMIT SWITCH
or	645 019 2661	SWITCH,LEAF,LIMIT SWITCH

SCHEMATIC DIAGRAM (TUNER)_____

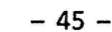
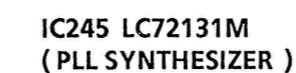


WIRING DIAGRAM (TUNER)

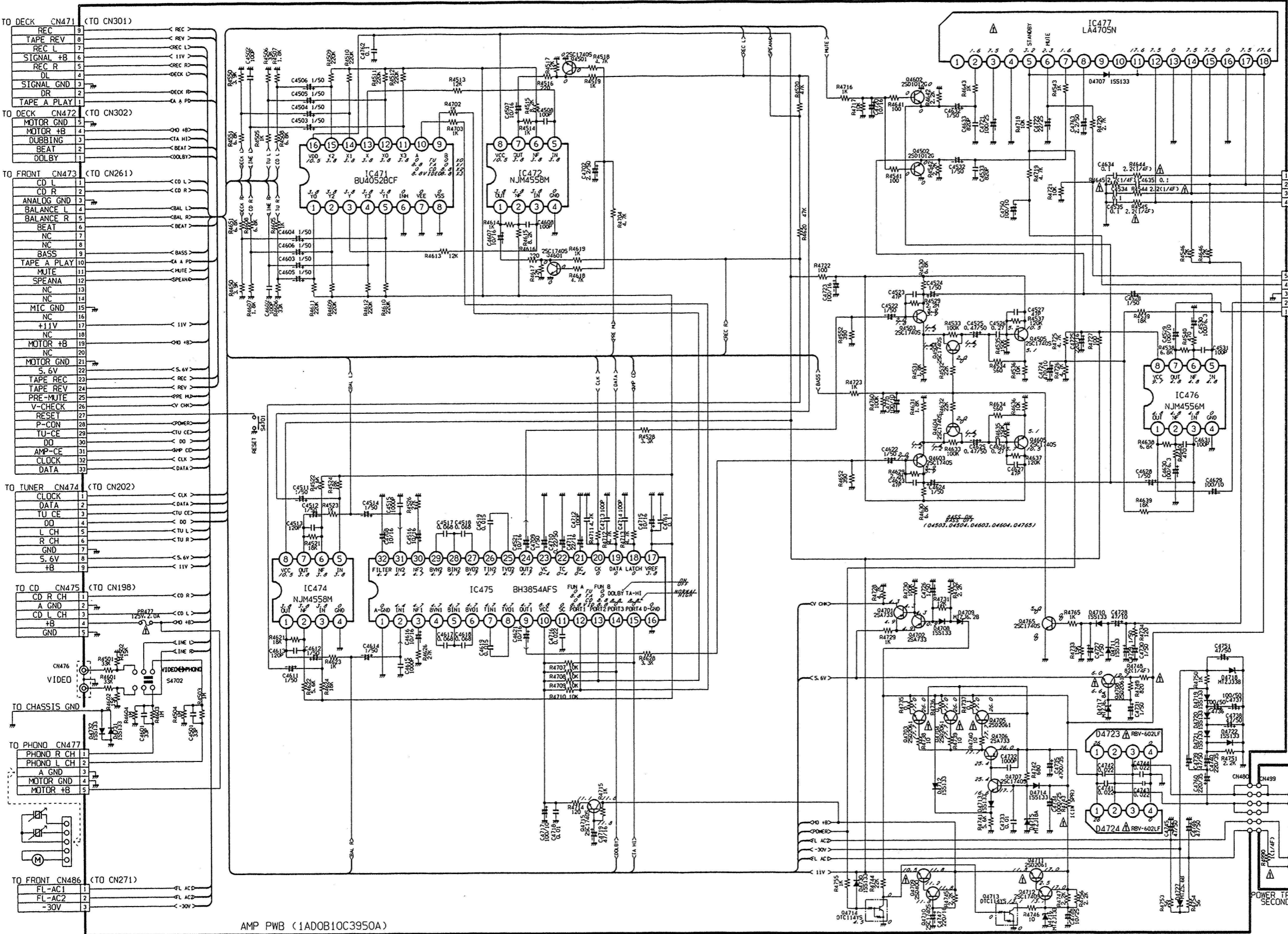


IC BLOCK DIAGRAM



IC211 TA8176S (FM FRONT END)

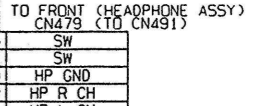
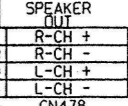


SCHEMATIC DIAGRAM (AMP.)



PRODUCT SAFETY NOTICE

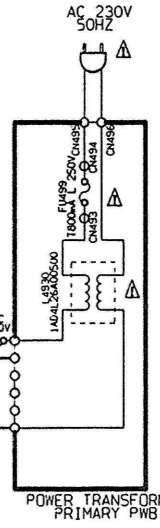
Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol  in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.

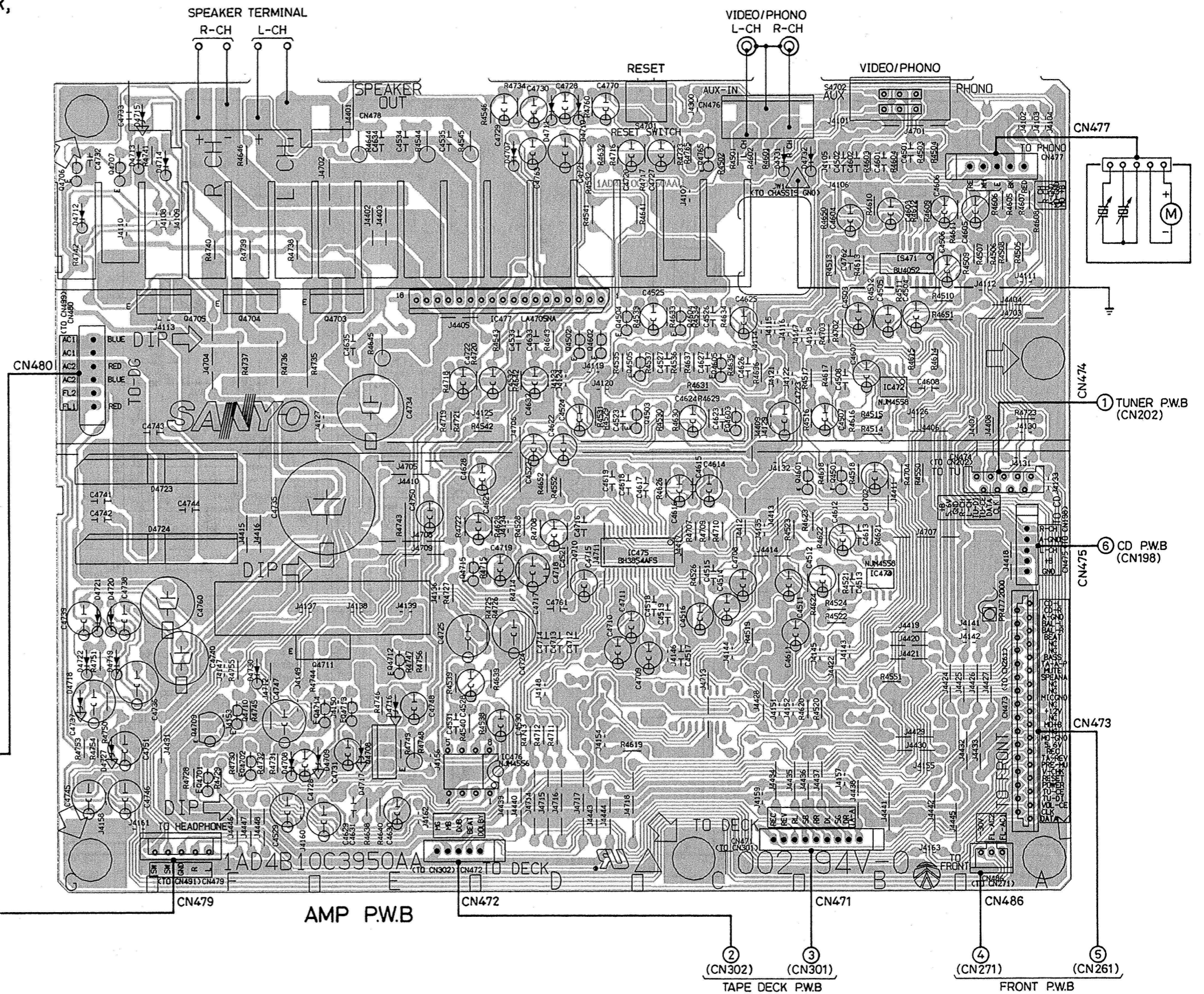
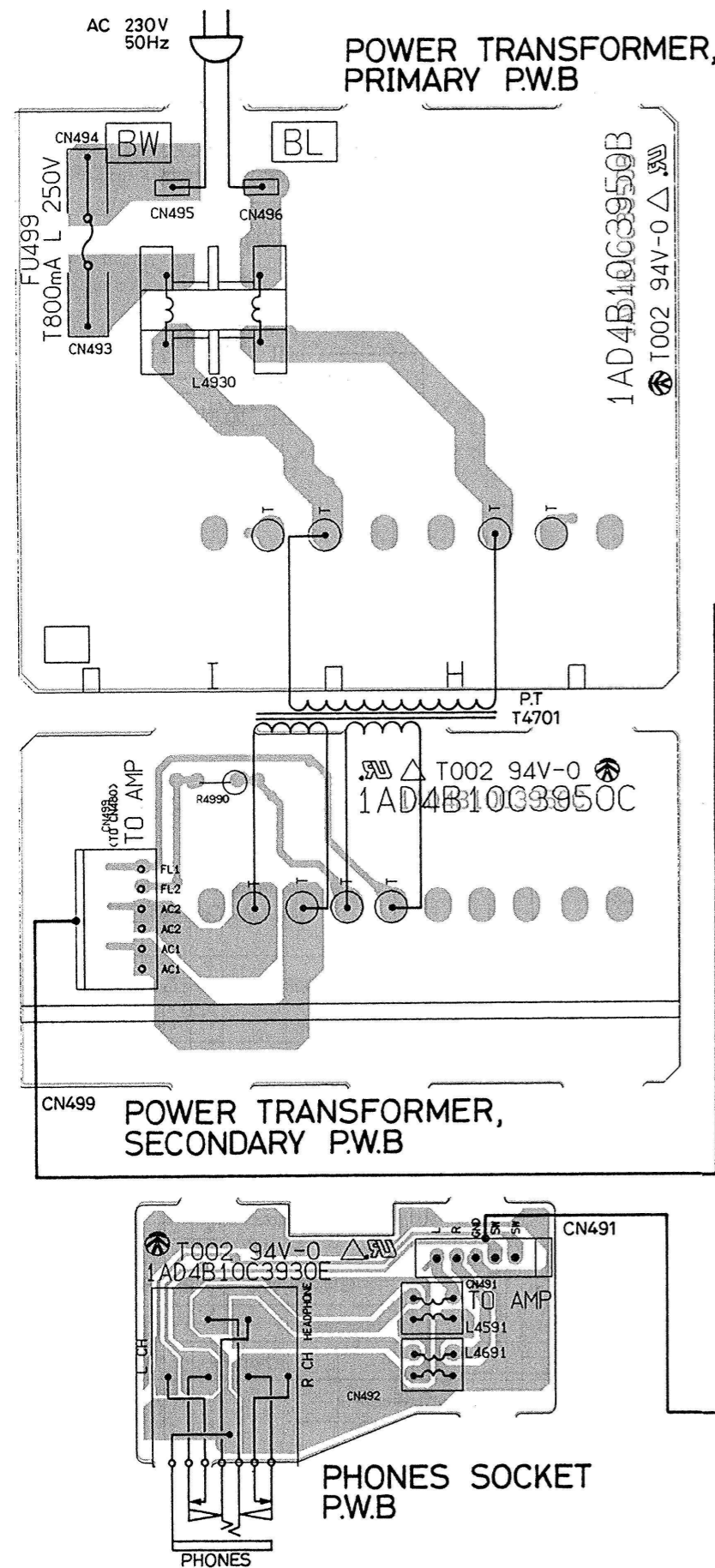


SWITCHES

S4701 RESET SWITCH

S4702 PHONO/VIDEO SWITCH





SCHEMATIC DIAGRAM (TAPE DECK)

IC370

NO.	PLAY	REC	OTHER
1	0	0	
2	0	0	
3	0.58	0.58	
4	4.9	4.9	
5	4.9	4.9	
6	0	0	
7	0	0	
8	4.9	4.9	
9	0	1.04	
10	0	0	
11	11.9	11.9	
12	11.9	11.9	
13	11.1	11.1	
14	0	0	
15	1.62	1.62	
16	4.9	4.9	
17	4.9	4.9	
18	0.58	0.58	
19	0	0	
20	0	0	

IC371

NO.	PLAY	REC	OTHER
1	4.9	4.9	
2	4.9	4.9	
3	4.9	4.9	
4	4.9	4.9	
5	1.16	1.16	
6	1.16	1.16	
7	0	0	
8	4.9	4.9	
9	4.9	4.9	
10	4.9	4.9	
11	4.9	4.9	
12	10.4	10.4	
13	10.4	10.4	
14	11.9	11.9	

CN301 FROM AMP (FROM CN471)

NO.	PLAY	REC	OTHER
1	TAPE A PLAY		
2	PB R		
3	GND		
4	PB L		
5	REC R		
6	S +B		
7	REC L		
8	NC		
9	TAPE B REC		

CN302 FROM AMP (FROM CN472)

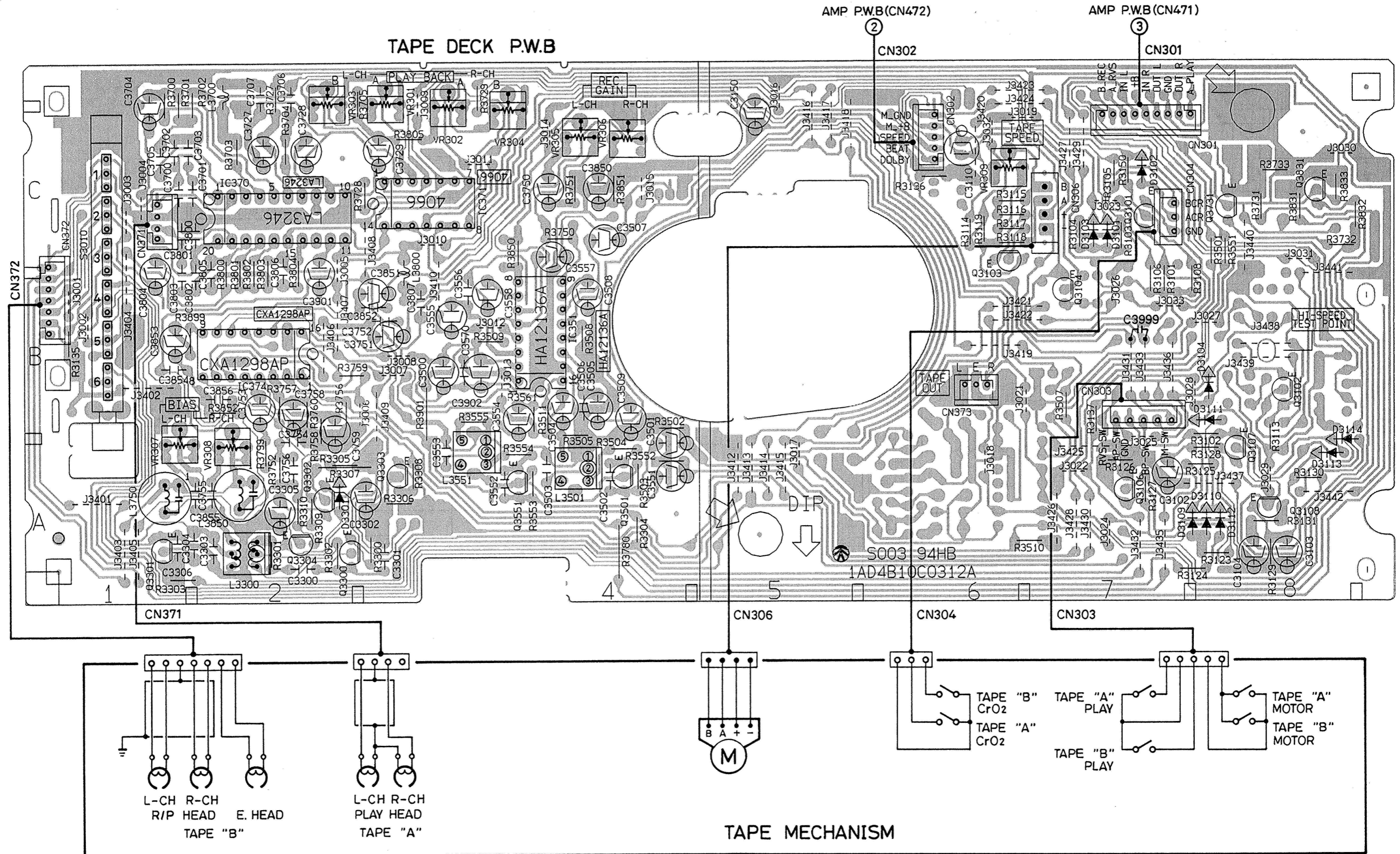
NO.	PLAY	REC	OTHER
1	DOLBY		
2	BEAT		
3	SPEED		
4	MB		
5	MG		

IC351

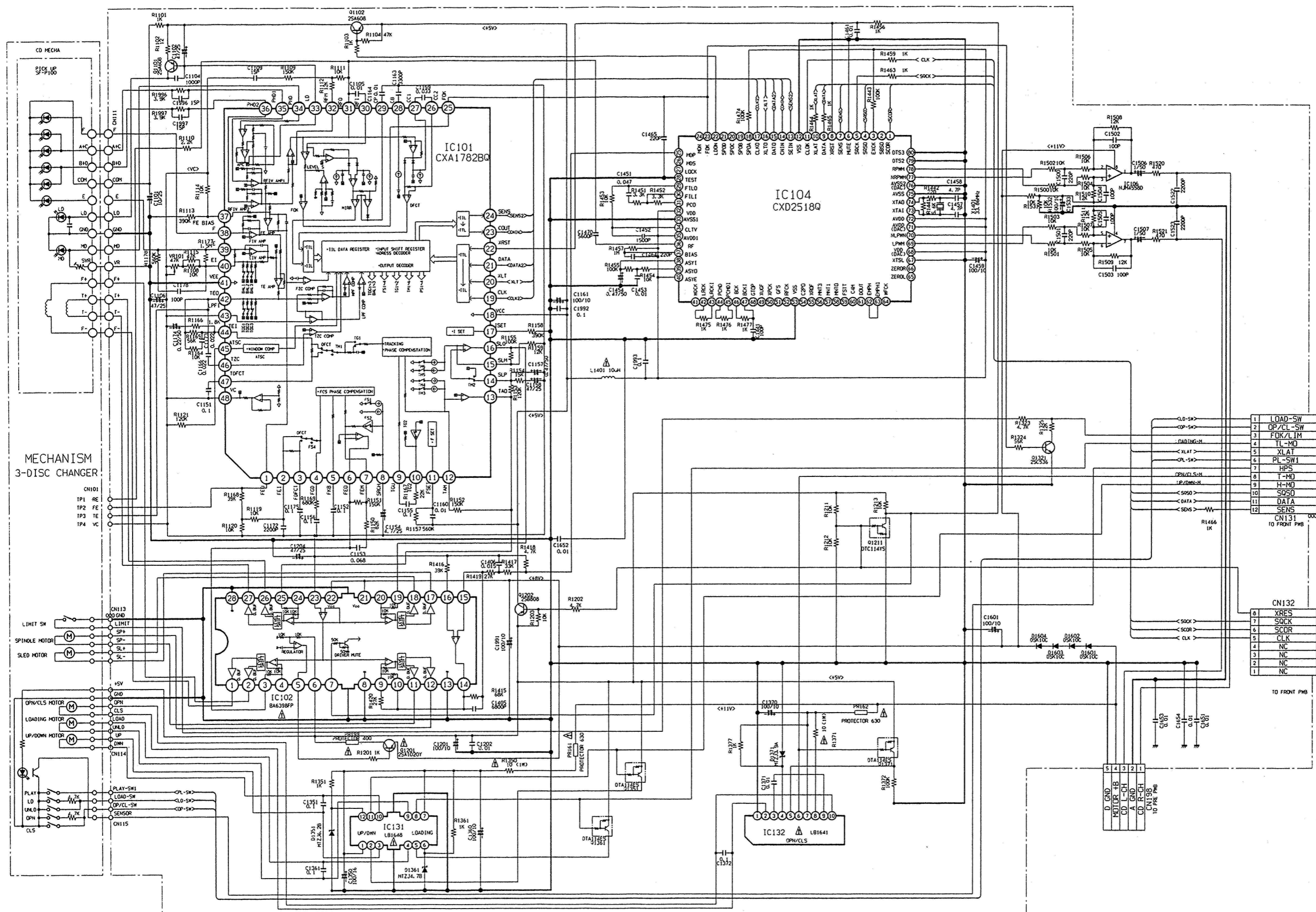
NO.	PLAY	REC	OTHER
1	6.0	6.0	
2	11.7	11.7	
3	6.0	6.0	
4	6.0	6.0	
5	0	0	
6	6.0	6.0	
7	1.26	1.26	
8	6.0	6.0	
9	6.0	6.0	
10	1.26	1.26	
11	6.0	6.0	
12	0	10.9	
13	0.92	0.92	
14	6.0	6.0	
15	0	0	
16	6.0	6.0	

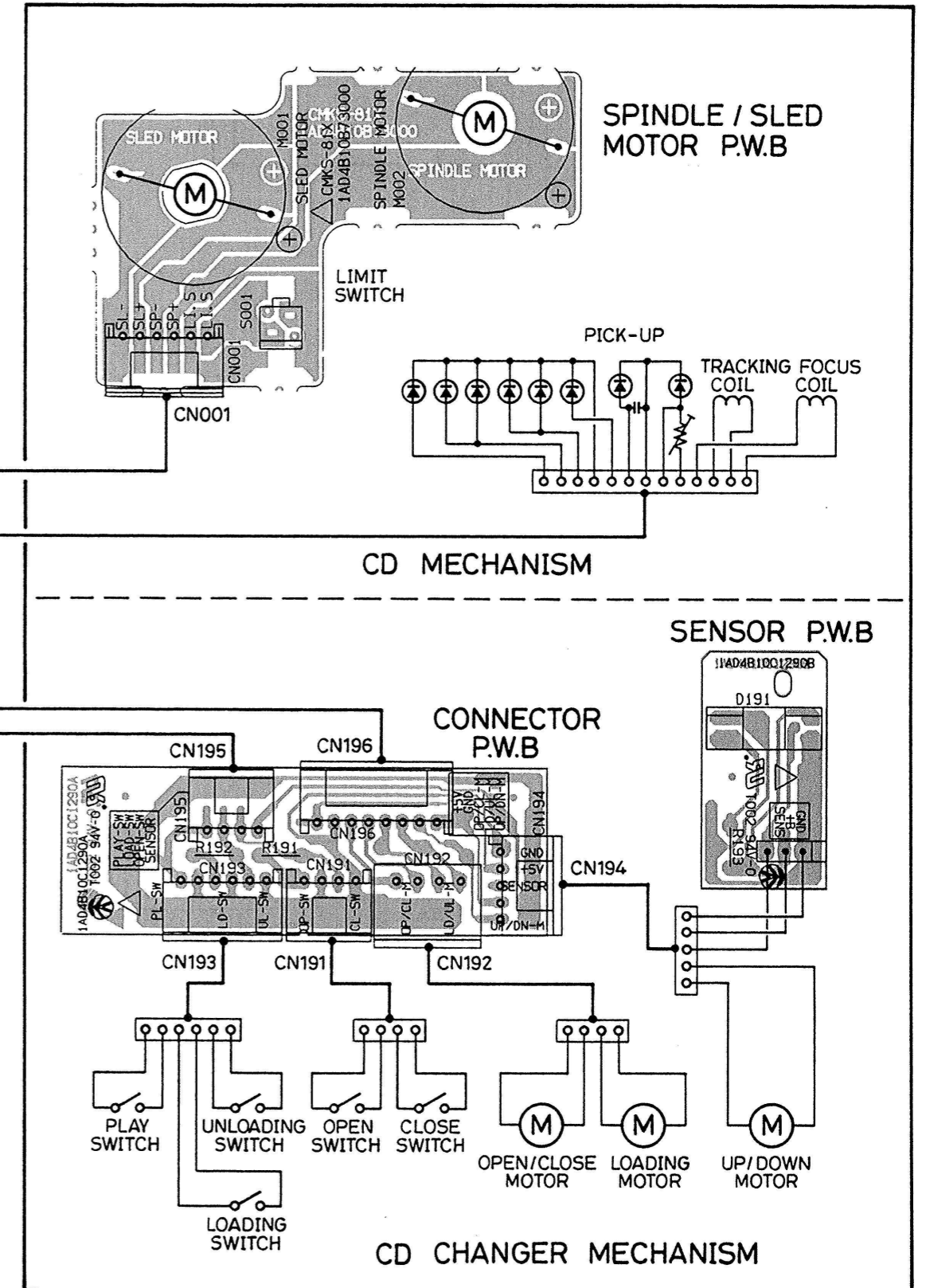
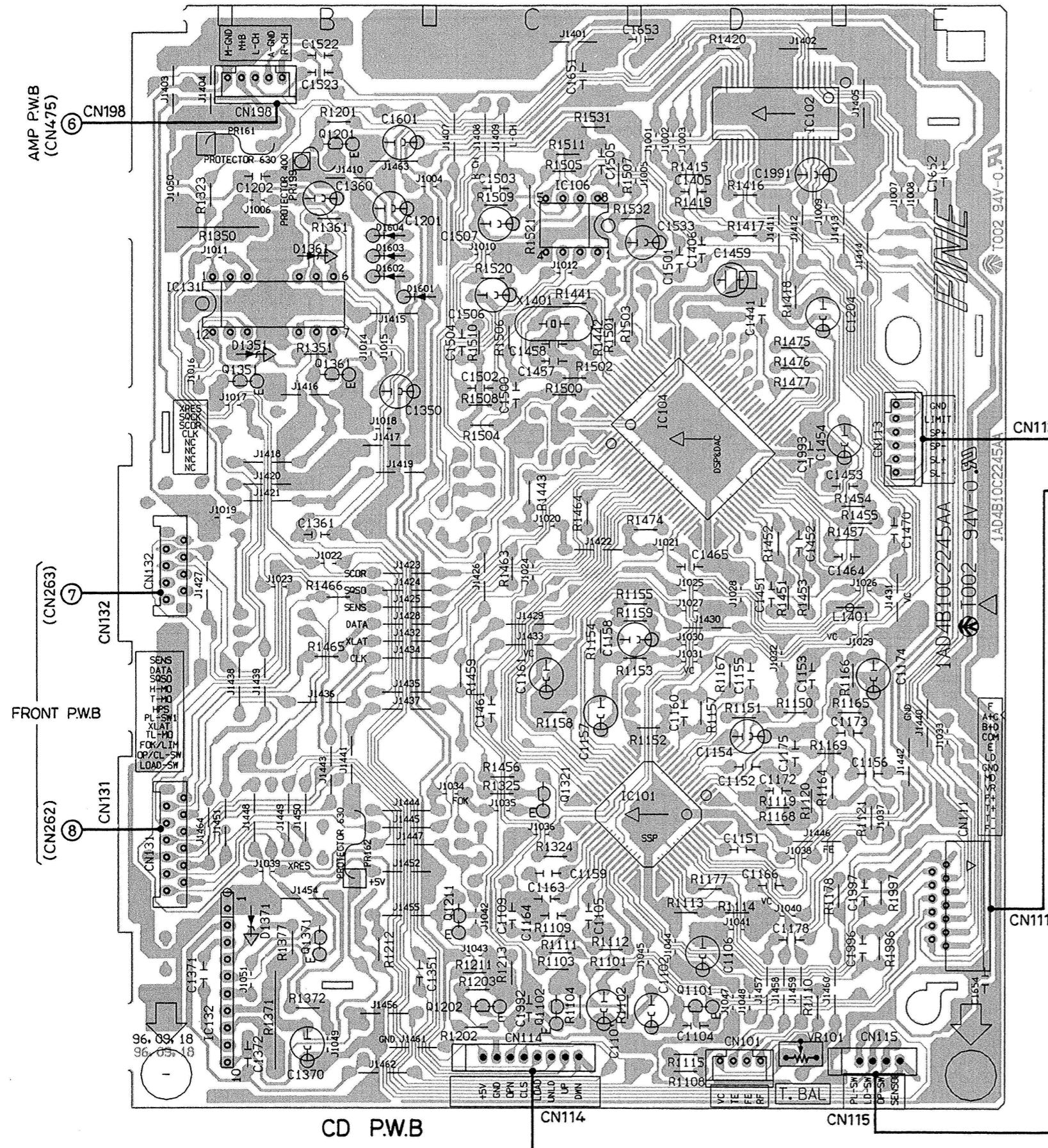
IC374

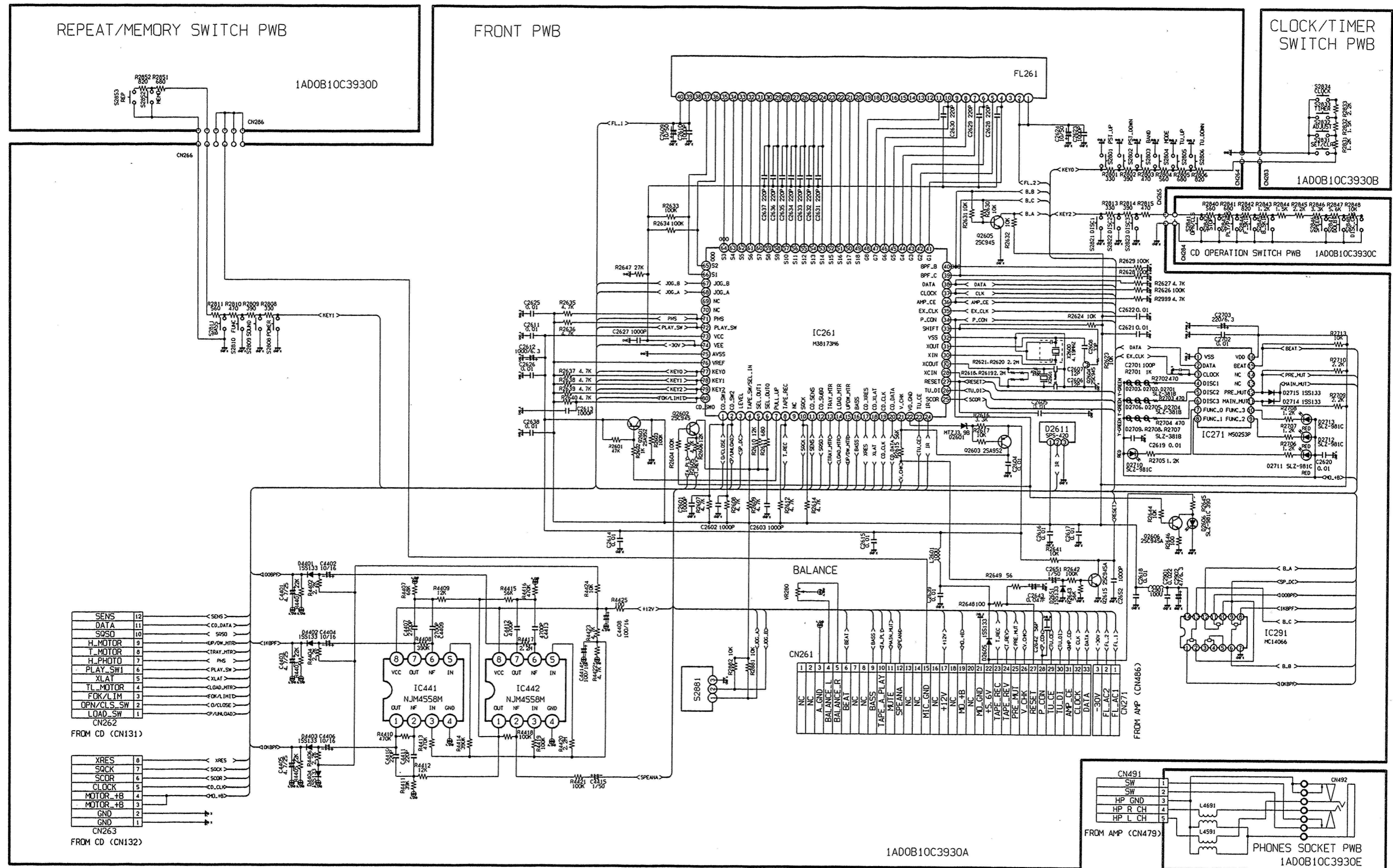
NO.	PLAY	REC	OTHER
1	0	0	
2	0	0	
3	0	0	
4	5.9	0	
5	0	0	
6	6.0	6.0	
7	6.0	6.0	
8	5.8	5.8	
9	5.8	5.8	
10	6.0	6.0	
11	6.0	6.0	
12	6.0	6.0	
13	6.0	6.0	
14	6.0	6.0	
15	1.23	1.23	
16	11.9	11.9	



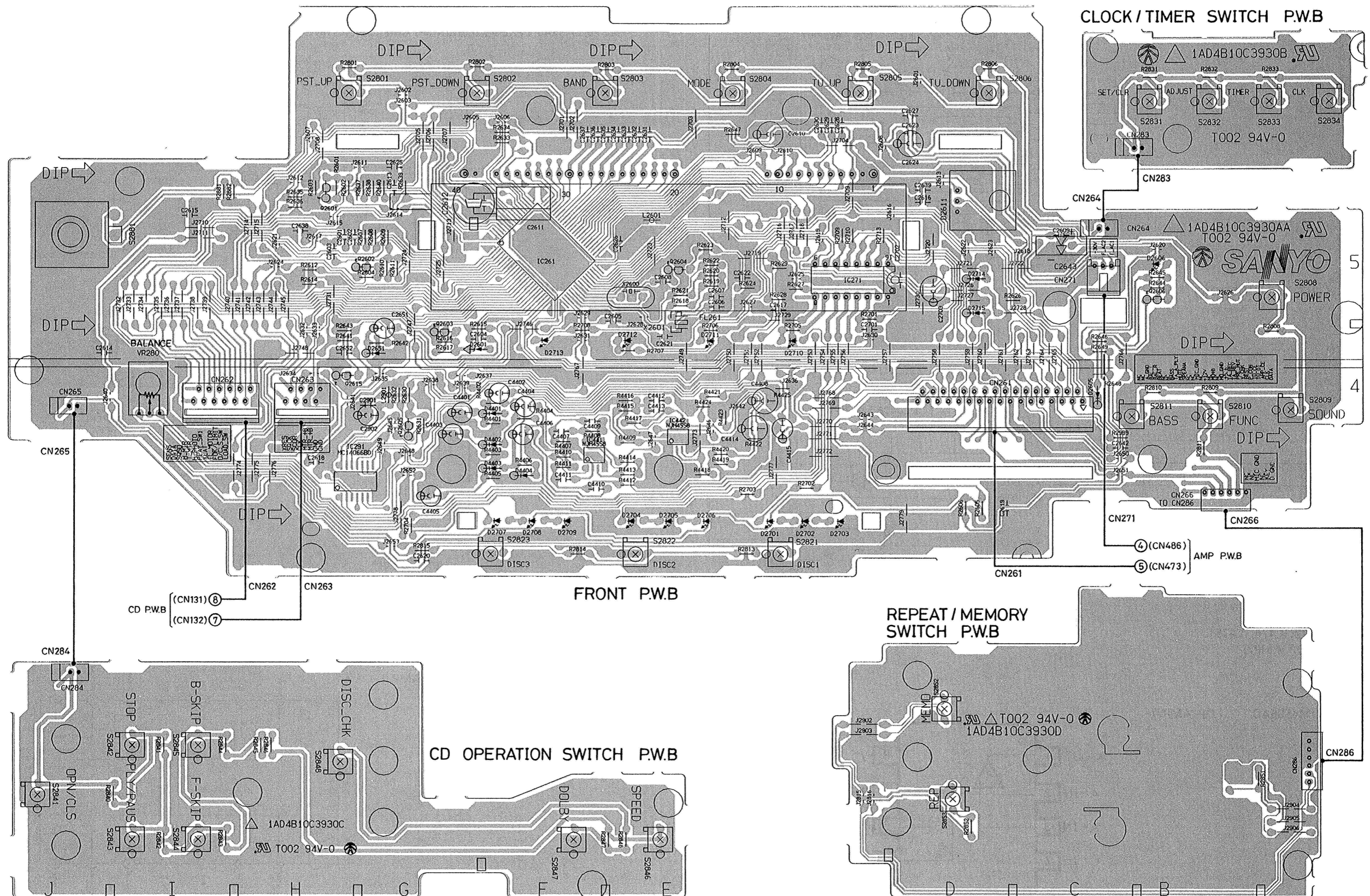
SCHEMATIC DIAGRAM (CD)





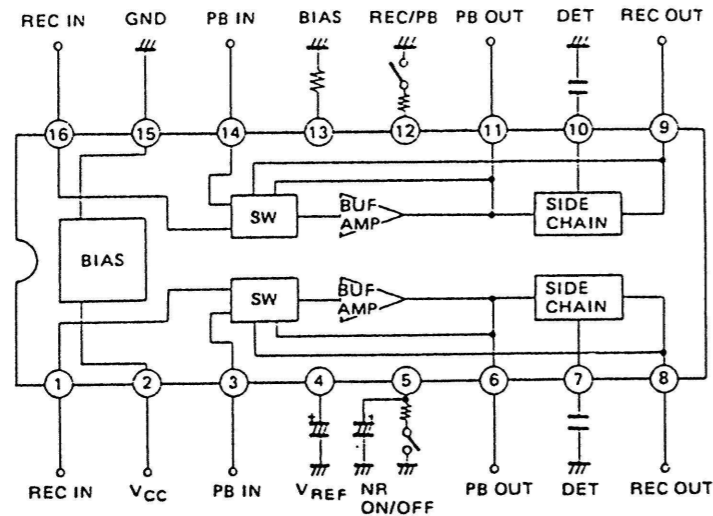


WIRING DIAGRAM (FRONT OPERATION)



IC BLOCK DIAGRAM

IC351 HA12136A (DOLBY B-TYPE NOISE REDUCTION)

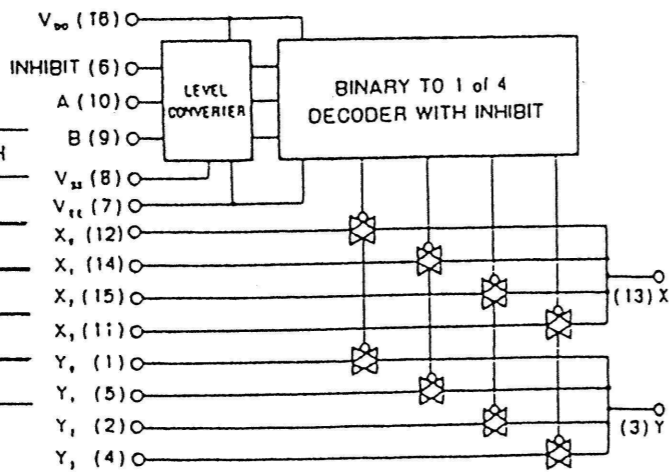


IC471 BU4052BCF (FUNCTION)

Truth Table

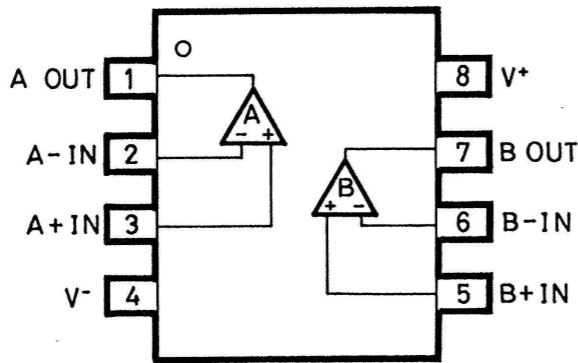
INHIBIT	A	B	ON SWITCH
L	L	L	X0 Y0
L	H	L	X1 Y1
L	L	H	X2 Y2
L	H	H	X3 Y3
H	X	X	NONE

X : Don't Care



IC441, IC442, IC472, IC474, IC475
NJM4558M (OP. AMP.)

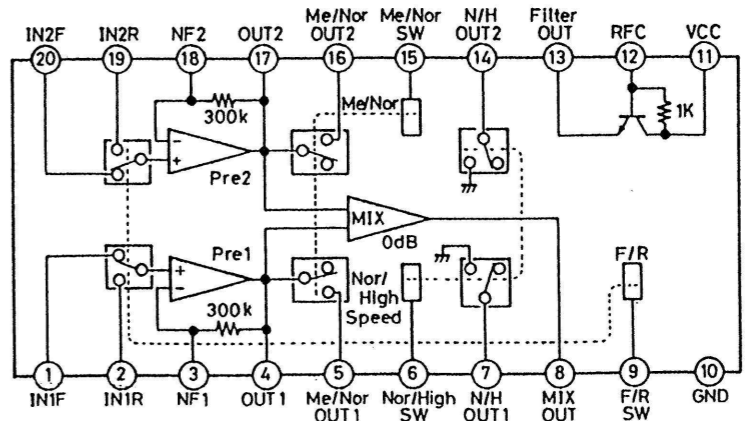
IC476
NJM4556D or NJM4556AD (OP. AMP.)



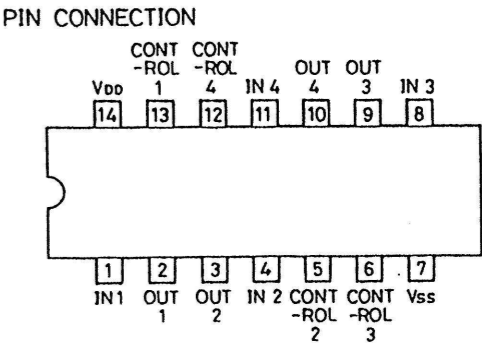
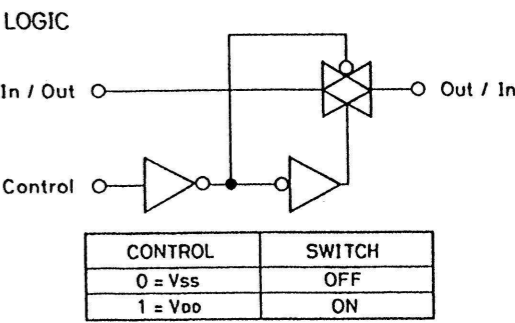
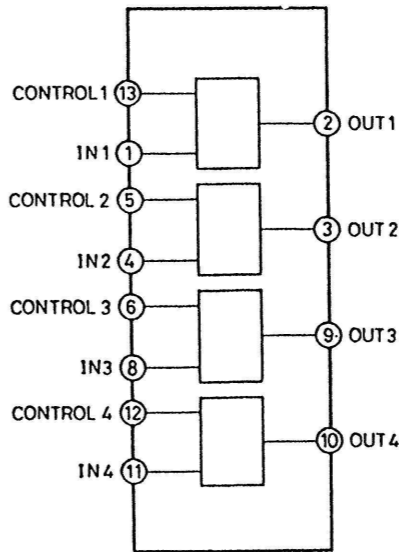
IC BLOCK DIAGRAM

TAPE DECK SECTION

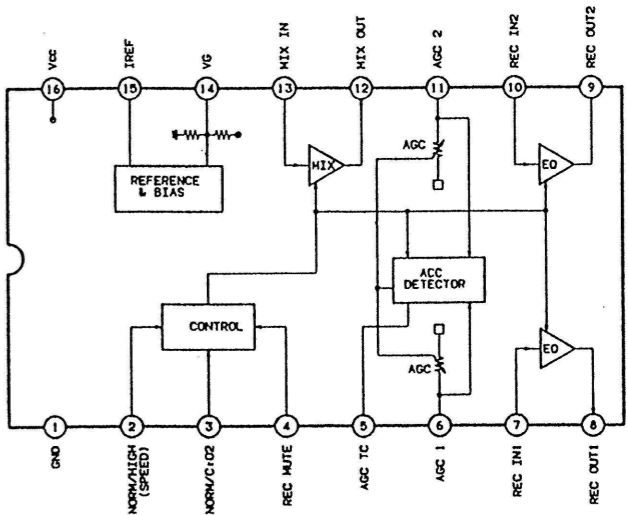
IC370 LA3246 (PRE-AMP./MIXING AMP./SWITCHING)



IC291 MC14066B (SWITCHING)
IC371 MLC4066B (SWITCHING)

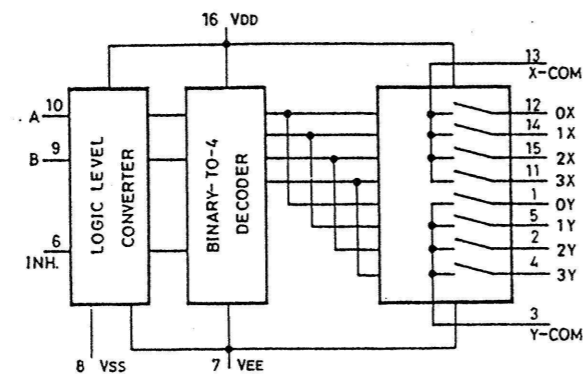
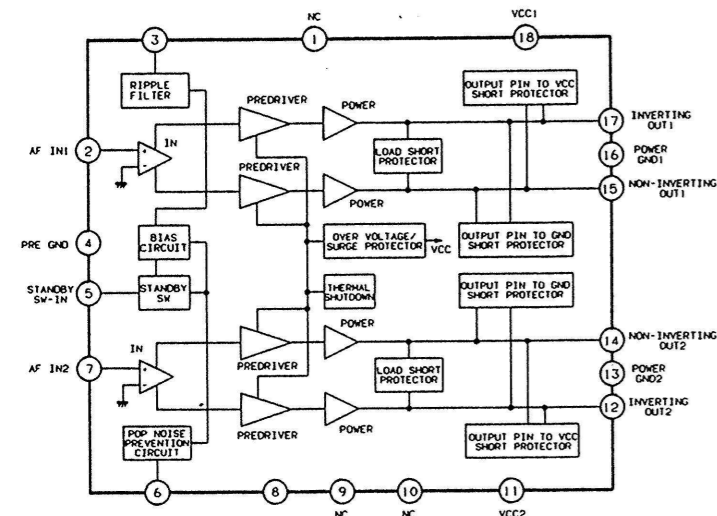


IC374 CXA1298AP (EQUALIZER AMP.)



IC BLOCK DIAGRAM & DESCRIPTION

IC477 LA4705NA (POWER AMP.)



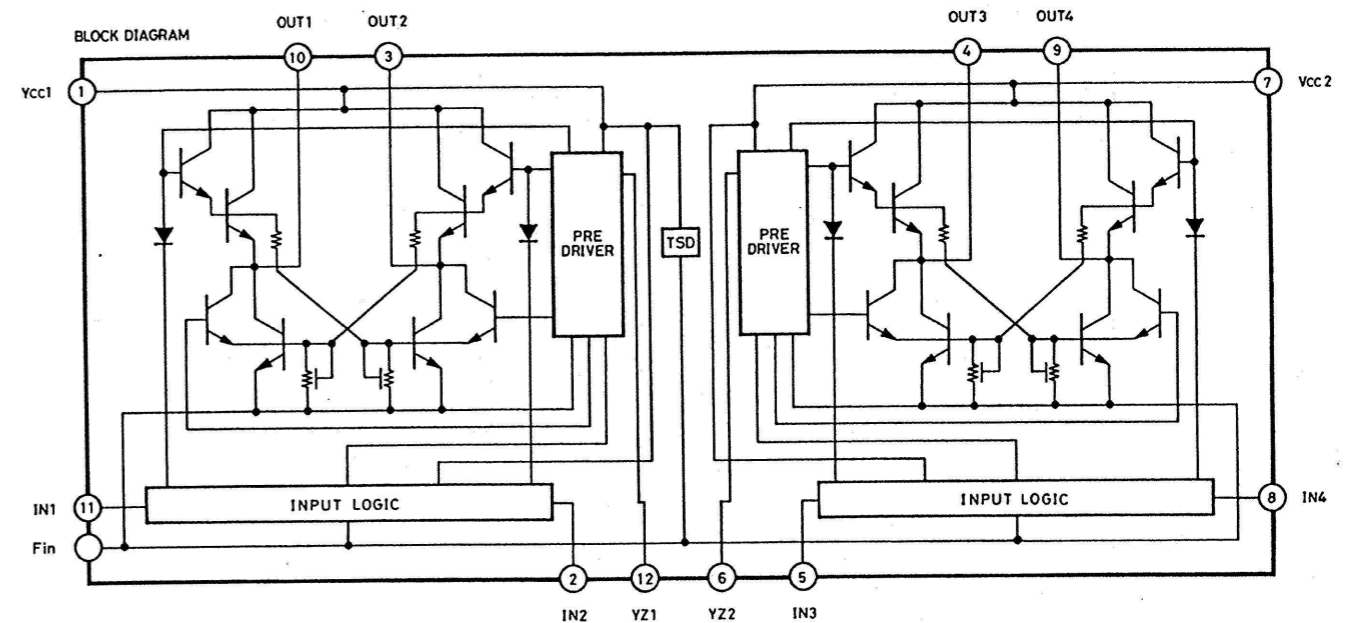
IC101 CXA1782BQ (SERVO SIGNAL PROCESSOR)

No.	Name	I / O	Description
1	FEO	O	Focus error amplifier output.
2	FEI	I	Focus error input.
3	FDFCT	I	Capacitor connection pin for detect time constant.
4	FGD	I	Ground this pin through a capacitor when decreasing the focus servo high-frequency
5	FLB	I	External time constant setting pin for increasing the focus servo low frequency.
6	FEO	O	Focus drive output.
7	FEM	I	Focus amplifier negative input.
8	SRCH	I	External time constant setting pin for generating focus servo waveform.
9	TGU	I	External time constant setting pin for switching tracking high-frequency gain.
10	TG2	I	External time constant setting pin for switching tracking high-frequency gain.
11	FSET	I	High cut off frequency setting pin for focus and tracking phase compensation amplifier.
12	TAM	I	Tracking amplifier negative input.
13	TAO	O	Tracking drive output.
14	SLP	I	Sled amplifier non-inverted input.
15	SLM	I	Sled amplifier negative input.
16	SLO	O	Sled drive output
17	ISET	I	Setting pin for Focus search, Tracking jump, and Sled kick current.
18	V _{CC}	-	+5.0V
19	CLK	I	Serial data transfer clock input from CPU.
20	XLT	I	Latch input from CPU.
21	DATA	I	Serial data input from CPU.
22	XRST	I	Reset input; resets at Low.
23	C.OUT	O	Track number count signal output.
24	SENS	O	Outputs FZC, DFCT, TZC, gain, balance, and others according to the command from CPU.

No.	Name	I / O	Description
25	FOK	O	Focus OK comparator output.
26	CC2	O	Input pin for the DEFECT bottom hold output capacitance-coupled.
27	CC1	I	DEFECT bottom hold output.
28	CB	I	Connection pin for DEFECT bottom hold capacitor.
29	CP	I	Connection pin for MIRR hold capacitor. MIRR comparator non-inversed input.
30	RFI	I	Input pin for the RF summing amplifier output capacitance-coupled.
31	RFO	O	RF summing amplifier output. Eye pattern check point.
32	RFM	I	RF summing amplifier inverted input. The RF amplifier gain is determined by the resistance connected between this pin and RFO pin.
33	LD	O	APC (Auto Power Control) amplifier output.
34	PHD	I	APC (Auto Power Control) amplifier input.
35	PHD1	I	RF I-V amplifier inverted input.
36	PHD2	I	RF I-V amplifier inverted input.
37	FEBIAS	I	Bias adjustment of focus error amplifier.
38	F	I	F I-V and E I-V amplifier inverted input.
39	E	I	F I-V and E I-V amplifier inverted input.
40	EI	-	I-V amplifier E gain adjustment.
41	V _{EE}	-	GND
42	TEO	O	Tracking error amplifier output.
43	LPFI	I	Comparator input for balance adjustment.
44	TEI	I	Tracking error input.
45	ATSC	I	Window comparator input for ATSC detection.
46	TZC	I	Tracking zero-cross comparator input.
48	VC	O	(V _{CC} + V _{EE}) / 2 DC voltage output.

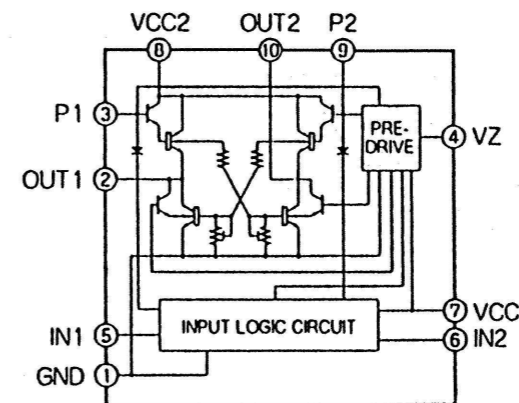
IC BLOCK DIAGRAM & DESCRIPTION

IC131 LB1648 (REEL MOTOR DRIVER)



IN1	IN2	OUT1	OUT2	IN3	IN4	OUT3	OUT4
0	0	OPEN	OPEN	0	0	OPEN	OPEN
1	0	H	L	1	0	H	L
0	1	L	H	0	1	L	H
1	1	L	L	1	1	L	L

IC132 LB1641 (RECORD/PLAY SWITCHING)



Input		Output		Action
IN1	IN2	OUT1	OUT2	
0	0	0	0	Brake
1	0	1	0	Normal(Reverse)Rotary
0	1	0	1	Reverse(Normal)Rotary
1	1	0	0	Brake

IC BLOCK DIAGRAM & DESCRIPTION

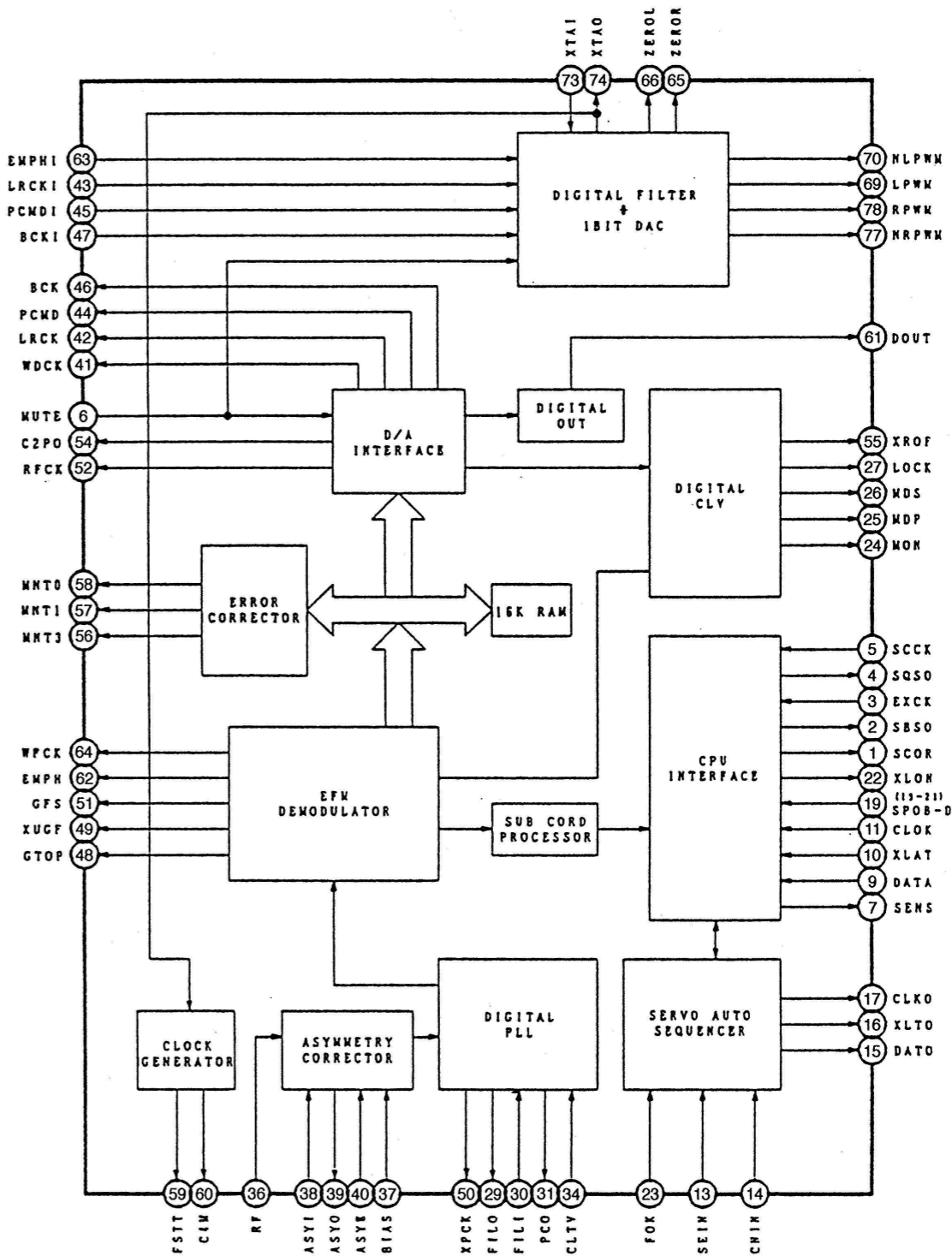
IC104 CXD2518Q (DIGITAL SIGNAL PROCESSOR)

No.	Name	I / O	Description
1	SCOR	O	Turns "H" when sync S0 or S1 is detected.
2	SBSO	O	Serial output of sub-code P ~ W.
3	EXCK	I	Clock input for reading SBSO.
4	SQSO	O	Serial output of SUBQ & SOBIT.
5	SQCK	I	Clock input for reading SQSO.
6	MUTE	I	"H" at muting, "L" at muting cancel.
7	SENS	O	SENS signal output to CPU.
8	XRST	I	System reset, "L" at resetting.
9	DATA	I	Inputs serial data from CPU.
10	XLAT	I	Latches input from CPU. Serial data latches at falling edge.
11	CLOK	I	Inputs serial data transfer clock from CPU.
12	V _{SS}	-	GND.
13	SEIN	I	Inputs SENS signal from SSP.
14	CNIN	I	Inputs track jump count signal
15	DATO	O	Outputs serial data to SSP
16	XLTO	O	Outputs latches to SSP. Serial data latches at falling edge.
17	CLKO	O	Outputs serial data transfer clock to SSP.
18	TEST2	I	Pin for TEST. Normal used state: V _{DD} .
19	SPOB	I	Not used
20	SPOC	I	Not used
21	SPOD	I	Not used
22	XLON	O	Interface for extension of M. processor(output)
23	FOK	I	Focus OK signal input pin. Used servo auto sequencer with SENS output.
24	MON	O	ON/OFF control signal for spindle motor.
25	MDP	O	Servo control signal for spindle motor.
26	MDS	O	Not used
27	LOCK	O	Not used
28	TEST	I	GND.
29	FILO	O	Output of filter for master PLL.(Slave = Digital PLL)
30	FILI	I	Inputs to filter for master PLL.
31	PCO	O	Outputs of charge pump for master PLL.
32	V _{DD}	-	Power supply for digital.(+ 5V)
33	AV _{SS1}	-	Power supply for analog.(0V)
34	CLTV	I	VCO control voltage input for master PLL.
35	AV _{DD1}	-	Power supply for analog.(+ 5V)
36	RF	I	EFM signal input.
37	BIAS	I	Inputs constant current for asymmetry correction circuit.
38	ASYI	I	Inputs comparator voltage for asymmetry correction circuit.
39	ASYO	O	EFM fill swing output.("L" = V _{SS} , "H" = V _{DD})
40	ASYE	I	"L" : OFF of asymmetry correction. "H" : ON of asymmetry correction.

No.	Name	I / O	Description
41	WDCK	O	Not used
42	LRCK	O	D/A interface for 48-bit slot. LR clock (f=FS)
43	LRCKI	I	Inputs LR clock to DAC.(48-bit slot)
44	PCMD	O	D/A interface. Serial data(2'SCOMP,MBS first)
45	PCMDI	I	Inputs audio data to DAC.(48-bit slot)
46	BCK	O	D/A interface. Bit clock.
47	BCKI	I	Inputs bit clock to DAC.(48-bit slot)
48	GTOP	O	Not used
49	XUGF	O	Not used
50	XPCK	O	Not used
51	GFS	O	Not used
52	RFCK	O	Not used
53	V _{SS}	-	GND.
54	C2PO	O	Not used
55	XROF	O	Not used
56	MNT3	O	Not used
57	MNT1	O	Not used
58	MNT0	O	Not used
59	FSTT	O	Not used
60	C4M	O	Not used
61	DOUT	O	Not used
62	EMPH	O	Stays "H" for playback disc provided with emphasis or "L" for that without emphasis.
63	EMPHI	I	De-emphasis ON/OFF of DAC. "H" at ON, "L" at OFF.
64	WFCK	O	Not used
65	ZEROL	O	Outputs detection for non-sound data. "H" at detection for non-sound data (L-ch)
66	ZEROR	O	Outputs detection for non-sound data. "H" at detection for non-sound data (R-ch)
67	DTS1	I	Normal used state: "L".
68	V _{DD}	-	Power supply for DAC.
69	LPWM	O	Outputs PWM for L-ch. (Positive Phase)
70	NLPWM	O	Outputs PWM for L-ch. (Negative Phase)
71	AV _{DD2}	-	Power supply for L-ch PWM driver.
72	AV _{DD3}	-	Power supply for X'tal.
73	XTAI	I	Inputs X'tal oscillation circuit (33.8688MHz).
74	XTAO	I	Outputs X'tal oscillation circuit (33.8688MHz).
75	AV _{SS3}	-	GND.
76	AV _{SS2}	-	GND.
77	NRPWM	O	Outputs PWM for R-ch. (Negative Phase)
78	RPWM	O	Outputs PWM for R-ch. (Positive Phase)
79	DTS2	I	Normal used state: "L".
80	DTS3	I	Normal used state: "L".

IC BLOCK DIAGRAM & DESCRIPTION

IC104 CXD2518Q (DIGITAL SIGNAL PROCESSOR)

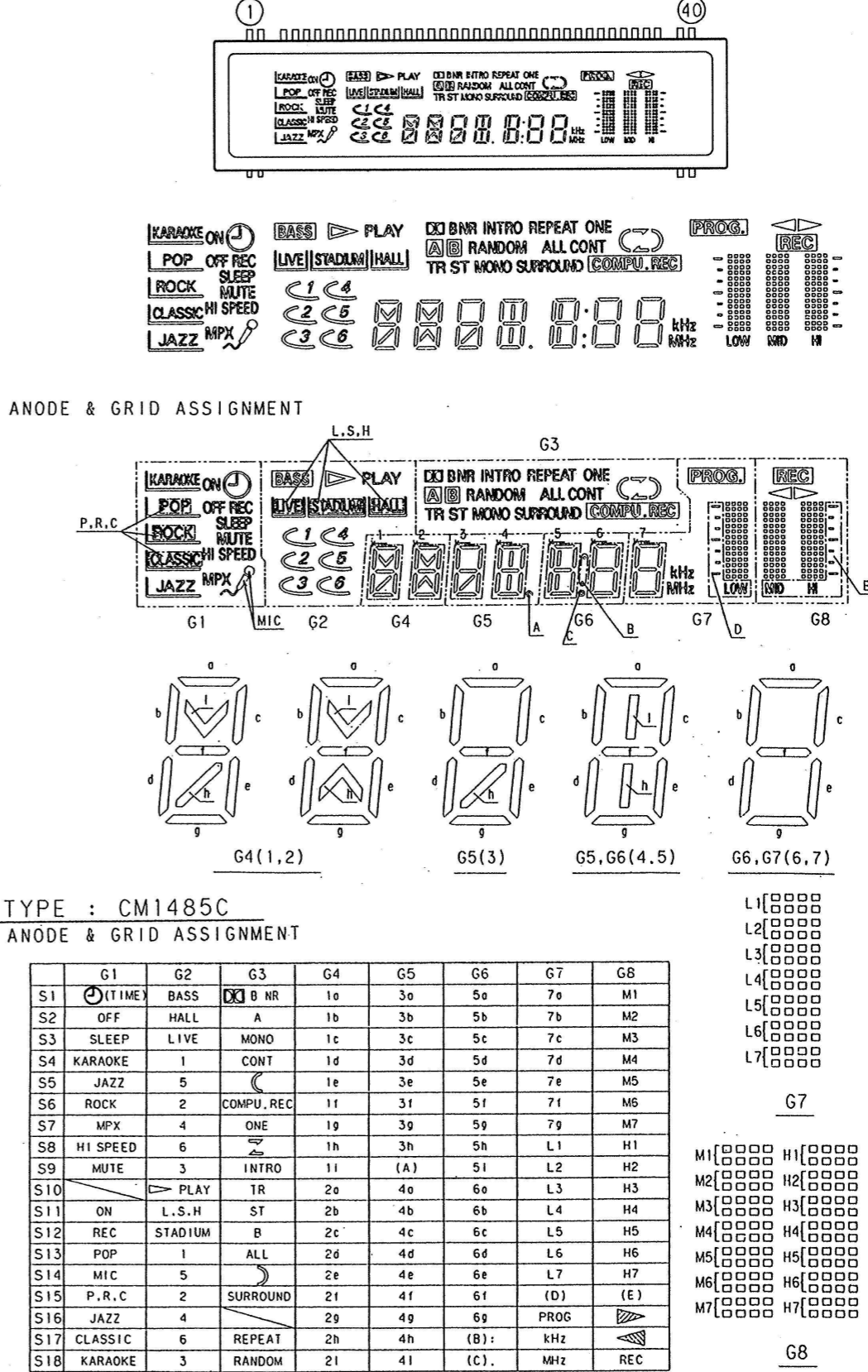


IC BLOCK DIAGRAM & DESCRIPTION

IC261 M38174M8-283FP (MICROPROCESSOR)

No.	NAME	I/O	DESCRIPTION	No.	NAME	I/O	DESCRIPTION
1	CD SW1	I	CLOSE SWITCH, OPEN SWITCH INPUT	39	BPF C	O	BPF CONTROL, BEAT SELECT
2	CD SW2	I	UN-LOAD, PLAY	40	BPF B	O	BPF CONTROL, SHIFT (L = LOW, H = MID, L = HIGH)
3	LEVEL	I	SPECTRUM ANALYZER SIGNAL	41	G1	O	GRID 1
4	TAPE SW	I	TAPE A, REVERSE, SEL IN SELECT	42	G2	O	GRID 2
5	SELOUT1	O	SELECT	43	G3	O	GRID 3
6	SELOUT0	O	SELECT	44	G4	O	GRID 4
7	PULL UP	O	PULL-UP POWER (ON = L)	45	G5	O	GRID 5
8	TAPE REC	I	TAPE B, REC SWITCH (REC = L)	46	G6	O	GRID 6
9	DOOR SW	I	CD TRAY, DOOR SWITCH (DOOR OPEN = L)	47	G7	O	GRID 7
10	CD SQCK	O	CD DSP SQCK	48	G8	O	GRID 8
11	CD SENS	I	CD DSP SENS	49	S18	O	SEGMENT 18
12	CD SUBQ	I	CD DSP SUBQ	50	S17	O	SEGMENT 17
13	TRAY MTR	O	TRAY OPEN/CLOSE MOTOR CONTROL (OPEN = H, CLOSE = L)	51	S16	O	SEGMENT 16
14	LOAD MTR	O	TRAY LOADING MOTOR CONTROL (LOAD = H, UNLOAD = L)	52	S15	O	SEGMENT 15
15	UPDW MTR	O	UP/DOWN MOTOR CONTROL (UP = H, DOWN = L)	53	S14	O	SEGMENT 14
16	BASS	O	BASS CONTROL (ON = L)	54	S13	O	SEGMENT 13
17	CD XRES	O	CD POWER (CD POWER OFF = H, RESET = M, POWER ON = L)	55	S12	O	SEGMENT 12
18	CD XLAT	O	CD DSP XLAT	56	S11	O	SEGMENT 11
19	CD CLOCK	O	CD DSP CLOCK	57	S10	O	SEGMENT 10
20	CD DATA	O	CD DSP DATA	58	S9	O	SEGMENT 9
21	V CHK	I	VOLTAGE CHECK, FAILURE	59	S8	O	SEGMENT 8
22	VD GND	O	GROUND	60	S7	O	SEGMENT 7
23	TU CE	O	TUNER CE	61	S6	O	SEGMENT 6
24	IR	I	REMOTE CONTROL	62	S5	O	SEGMENT 5
25	SCOR	I	CD SCOR DETECTION	63	S4	O	SEGMENT 4
26	TU D1	I	TUNER DATA	64	S3	O	SEGMENT 3
27	RESET		SYSTEM RESET	65	S2	O	SEGMENT 2
28	XCIN		SUB CLOCK OSCILLATOR	66	S1	O	SEGMENT 1
29	XOUT		SUB CLOCK OSCILLATOR	67	JOG-B	I	JOG B
30	XIN		MAIN CLOCK OSCILLATOR	68	JOG A	I	JOG A
31	XOUT		MAIN CLOCK OSCILLATOR	69	NC		
32	VSS		GROUND	70	NC		
33	SHIFT	O	MAIN CLOCK SHIFT CONTROL (L = POS A, H = POS B)	71	PHS	I	HOLDER-PHOTO SENSOR (SLIT = H)
34	P-CON	O	POWER CONTROL (POWER ON = H)	72	PLAY SW	I	CD PLAY SWITCH
35	EX-CLK	O	IC CLOCK SIGNAL	73	VCC	I	POWER (+)
36	AMP CE	O	IC CECONTROL SYGNAL	74	VEE		FL POWER (-)
37	CLOCK	O	TUNER PLL, ELECTRONIC VOLUME CLOCK/CD SELECT	75	AVSS		GROUND
38	DATA	O	TUNER PLL, ELECTRONIC VOLUME IC DATA/REV	76	VREF		REFERENCE VOLTAGE
				77	VLKEY0		KEY INPUT
				78	KEY1		KEY INPUT
				79	KEY2		KEY INPUT
				80	CD SW0		FOK, LIMIT SWITCH INPUT

FL DISPLAY (FLUORESCENT TUBE) DESCRIPTION



IC & TRANSISTOR VOLTAGES

• CD SECTION

IC101 CXA1782BQ

(V)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PLAY	2.6	2.5	2.5	2.5	2.5	2.7	2.5	2.9	2.5	2.5	0.8	2.5	2.5	2.5	2.5
STOP	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.9	2.5	2.5	0.8	2.5	2.5	2.5	2.5
Pin No.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
PLAY	2.5	1.2	5.0	5.0	5.0	4.9	4.8	0	5.0	5.0	0.6	0.7	1.5	2.4	2.5
STOP	2.5	1.2	5.0	5.0	5.0	4.9	4.8	0	5.0	0	2.2	4.3	3.1	1.2	2.5
Pin No.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
PLAY	3.5	2.5	3.8	0.2	2.5	2.5	2.4	2.3	2.5	2.2	0	2.5	2.5	2.5	2.5
STOP	1.0	3.5	0.8	0	2.2	2.2	2.5	2.5	2.1	3.4	0	2.5	2.5	2.5	2.5
Pin No.	46	47	48												
PLAY	2.5	2.5	2.5												
STOP	2.5	2.5	2.5												

IC102 BA6398FP

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PLAY	4.2	4.2	2.5	2.5	8.2	5.0	4.8	0	2.5	2.4	4.6	4.1	0	2.4	2.5
STOP	4.2	0	2.5	2.5	9.3	5.0	4.8	0	2.5	2.5	4.6	4.6	0	9.0	2.5
Pin No.	16	17	18	19	20	21	22	23	24	25	26	27	28		
PLAY	2.5	4.2	4.4	2.5	2.5	9.2	9.2	2.5	2.5	2.5	4.2	4.2	0		
STOP	2.5	4.6	4.6	2.5	2.5	9.2	9.2	2.5	2.5	0	4.6	4.6	0		

IC104 CXD2518

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PLAY	0	0	5.0	0	4.7	0	5.0	4.8	4.7	4.8	4.8	0	5.0	0	3.3
STOP	0	3.4	5.0	0	4.9	0	0	4.8	4.8	4.8	4.8	0	5.0	0	5.0
Pin No.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
PLAY	5.0	5.0	5.0	5.0	0	0	0.5	5.0	5.0	2.6	0	5.0	0	2.5	2.5
STOP	5.0	5.0	5.0	0	0	0	5.0	0	0	2.5	0	0	0	2.5	2.5
Pin No.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
PLAY	2.5	5.0	0	2.5	5.0	2.7	0.8	2.5	2.5	5.0	2.5	2.5	2.5	2.5	2.5
STOP	2.5	5.0	0	2.5	5.0	2.7	0.8	2.5	2.5	5.0	2.5	2.5	2.5	2.7	2.7
Pin No.	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
PLAY	2.0	2.4	0	5.0	1.7	5.0	2.5	1.7	0	5.0	4.5	0	0	2.6	1.7
STOP	2.0	2.4	5.0	5.0	1.7	0	2.5	0	5.0	0	4.3	3.6	0	2.6	2.1
Pin No.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
PLAY	1.7	0	0	2.5	0	0	0	0	2.5	2.5	5.0	2.5	2.5	2.5	0
STOP	2.1	2.1	2.1	2.5	4.8	4.8	0	5.0	2.5	2.5	5.0	5.0	2.5	2.5	0
Pin No.	76	77	78	79	80										
PLAY	0	2.5	2.5	0	0										
STOP	0	2.5	2.5	0	0										

IC131 LB1648

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12			
STOP	8.8	4.3	0.4	0	4.3	3.8	8.8	1.9	0	0.4	1.9	6.1			
UP	8.8	4.3	0	0	4.3	3.8	8.8	4.0	0	6.0	0	6.1			
DOWN	8.8	0	6.0	0	4.3	3.8	8.8	0	0	0	4.0	6.1			
LOAD	8.8	4.3	0.4	0	4.3	3.8	8.8	1.9	4.0	0.4	1.9	6.1			
UNLOAD	8.8	4.3	0.4	4.0	0	3.8	8.8	1.9	0	0.4	1.9	6.1			

IC132 LB1641

Pin No.	1	2	3	4	5	6	7	8	9	10					
STOP	0	0.5	0.7	3.8	4.2	1.5	8.8	8.9	0.7	0.5					
OPEN	0	0.2	0.7	3.8	0	4.0	8.8	8.9	5.2	4.0					
CLOSE	0	4.0	4.9	3.8	4.2	0	8.8	8.9	0.7	0.7					

IC & TRANSISTOR VOLTAGES

(V)

PIN	Q1101			Q1102			Q1201			Q1202			Q1211		
	B	C	E	B	C	E	B	C	E	B	C	E	B	C	E
PLAY	4.5	1.8	3.7	5.0	5.0	4.2	9.7	5.0	9.1	5.0	1.2	4.7	0	0	4.6
STOP	1.4	1.3	0	5.0	1.3	5.0	9.1	5.0	7.8	5.0	4.9	0.7	0	4.4	0
PIN	Q1321			Q1371											
	B	C	E	B	C	E									
PLAY	0	0	0.6	5.0	4.9	1.8									
STOP	0	0	0.6	5.0	4.9	1.8									

• FRONT SECTION

IC261 M38173M6

(V)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CD PLAY	0	2.5	0.2	5.0	5.0	5.0	0.1	5.0	1.7	4.9	0	-	1.7	2.6	2.6
CD STOP	0	2.5	0.2	5.0	5.0	5.0	0.1	5.0	1.7	0	1.0	-	1.7	2.6	2.6
Pin No.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
CD PLAY	5.0	0	5.0	5.0	0	4.8	5.0	0	5.0	0.1	5.3	4.9	0.7	2.3	2.1
CD STOP	5.0	5.0	0	0	0	4.8	5.0	0	5.0	0.1	5.3	4.9	2.0	2.4	2.2
Pin No.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
CD PLAY	2.1	0	0	4.9	0	0	0	0	1.5	1.5	-	-	-	-	-
CD STOP	2.1	0	0	4.9	0	0	0	0	1.5	1.5	-	-	-	-	-
Pin No.	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CD STOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pin No.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
CD PLAY	-	-	-	-	-	-	4.9	4.9	-	-	4.9	0	5.0	-16.6	0
CD STOP	-	-	-	-	-	-	4.9	4.9	-	-	4.9	0	5.0	-16.6	0
Pin No.	76	77	78	79	80										
CD PLAY	5.0	4.9	4.9	4.9	3.6										
CD STOP	5.0	4.9	4.9	4.9	3.6										

IC271 M50253P

DISC 1 PLAY

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PLAY	0	0	0	-	7.3	7.3	0.3	10.4	10.4	10.4	0.1	0.1	2.5	2.5	2.4	5.0
STOP	0	0	0	-	0.5	0.5	0.3	10.5	10.5	10.5	0.1	2.3	2.5	2.5	2.4	5.0

IC291 MC14066

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
ON	0.2	0.2	0.3	0.3	0.3	0.3	1.5	0	0.2	0.2	0.2	1.5	1.5	5.0
OFF	0	0	0	0.5	0.5	0.5	0	0	0	0	0	4.9	0	5.0

IC441,IC442 NJM4558M

Pin No.	1	2	3	4	5	6	7	8
ON	4.7	4.7	4.0	0	4.2	4.7	4.7	9.5
OFF	0.4	0.4	0	0	0	0.4	0.4	0

PIN	Q2605			Q2606		
	B	C	E	B	C	E
ON	0.4	1.5	0	1.9	1.3	1.2
OFF	0	4.9	0	0	1.9	0

PIN	Q2601			Q2603		
	B	C	E	B	C	E
ON	4.3	5.0	5.0	4.9	4.3	5.0
OFF	4.3	5.0	5.0	4.9	4.3	5.0

SANYO

SANYO Electric Co., Ltd.
Osaka, Japan